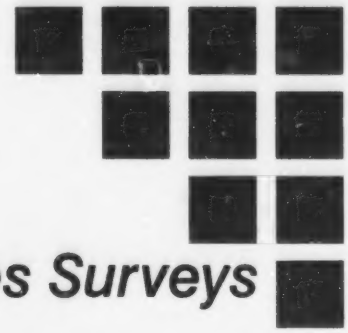
APPLIED RESEARCH BRANCH

Strategic Policy



The National Graduates Surveys

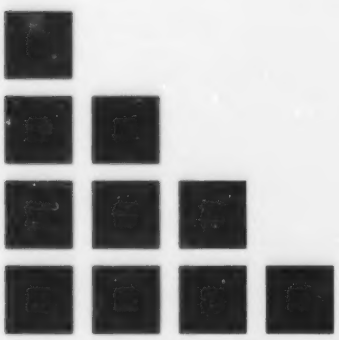
Employment Outcomes and the Interprovincial Mobility of Baccalaureate Graduates

R-00-2-2E

by
John Burbidge and Ross Finnie

February 2000

Research Paper



in collaboration with the

CENTRE FOR EDUCATION STATISTICS

Human Resources Development Canada
Développement des ressources humaines Canada
Statistics Canada
Statistique Canada
Canada

101-05750/

Applied Research Branch
Strategic Policy
Human Resources Development Canada

Direction générale de la recherche appliquée
Politique stratégique
Développement des ressources humaines Canada

Employment Outcomes and the Interprovincial Mobility of Baccalaureate Graduates

R-00-2-2E

by
John Burbidge and Ross Finnie
February 2000

The views expressed in papers published by the Applied Research Branch are the authors' and do not necessarily reflect the opinions of Human Resources Development Canada or of the federal government.

Les opinions exprimées dans les documents publiés par la Direction générale de la recherche appliquée sont celles des auteurs et ne reflètent pas nécessairement le point de vue de Développement des ressources humaines Canada ou du gouvernement fédéral.

■

The Research Paper Series includes studies and research conducted under the auspices of the Applied Research Branch of Strategic Policy (SP). Papers published in this series consist of secondary research in the form of background studies and literature reviews that support the research efforts of SP.

La série de documents de recherche comprend des études et des travaux de recherche réalisés sous l'égide de la Direction générale de la recherche appliquée, Politique stratégique (PS). Il s'agit notamment de recherches secondaires sous forme d'études de base et d'analyses documentaires qui appuient les efforts de recherche de PS.

═

This report is part of a set of research studies on the National Graduates Surveys. /
Le présent rapport fait partie d'un ensemble d'études sur les Enquêtes nationales auprès de diplômés.

Printed/Imprimé 2001
ISBN: 0-662-29961-2
Cat. No./N° de cat. MP32-29/00-2-2E

General enquiries regarding the documents published by the Applied Research Branch should be addressed to:

Publications Office
Applied Research Branch
Strategic Policy
Human Resources Development Canada
165 Hôtel-de-Ville Street, Phase II, 7th Floor
Hull, Quebec, Canada
K1A 0J2

Telephone: (819) 994-3304
Facsimile: (819) 953-9077
E-mail: research@spg.org
http://www.hrdc-drhc.gc.ca/arb

Si vous avez des questions concernant les documents publiés par la Direction générale de la recherche appliquée, veuillez communiquer avec :

Service des publications
Direction générale de la recherche appliquée
Politique stratégique
Développement des ressources humaines Canada
165, rue Hôtel-de-Ville, Phase II, 7e étage
Hull (Québec) Canada
K1A 0J2

Téléphone : (819) 994-3304
Télécopieur : (819) 953-9077
Courrier électronique : research@spg.org
http://www.hrdc-drhc.gc.ca/dgra

Abstract

The authors use three cohorts of the National Graduates Surveys to study the relationships between labour-market outcomes and mobility. Conditional on labour market outcomes at the first interview, age, marital status, parents' education, field of study and cohort, the authors find that moving significantly reduces the probability of working part-time involuntarily or of being unemployed. The percentage reductions in probabilities are particularly large for migrants from the Maritimes, Quebec, Manitoba and Saskatchewan. The percentage changes for the part-time-voluntary group and for those not in the labour force vary in sign and are much smaller in magnitude. While there are some exceptions, men and women who moved to Ontario, Alberta and British Columbia had higher second interview earnings than stayers. Women who left Ontario experienced lower earnings unless they went to the Maritimes. Men who left Alberta had lower earnings unless they went to Quebec. Women who left Alberta had lower earnings unless they went to British Columbia. Men who left British Columbia enjoyed higher earnings unless they migrated to the Maritimes. Women who left British Columbia had higher earnings unless they went to the Maritimes or Alberta.

Résumé

Trois cohortes des Enquêtes nationales auprès des diplômés ont fondé notre étude de la relation entre les résultats sur le marché du travail et la mobilité. Par rapport aux résultats sur le marché du travail à la première entrevue, à l'âge, à l'état matrimonial, aux études des parents, aux domaines d'études et à la cohorte, nous constatons que se déplacer beaucoup diminue la probabilité de l'emploi à temps partiel involontaire ou du chômage. Le pourcentage de diminution est particulièrement important dans le cas des migrants qui quittent les provinces maritimes, le Québec, le Manitoba et la Saskatchewan. Les variations percentuelles chez le groupe des personnes qui ont un emploi en à temps partiel volontaire ou qui sont en chômage évoluent en sens inverse, et sont beaucoup moins prononcés. À quelques exceptions près, les hommes et les femmes qui ont émigré en Ontario, en Alberta et en Colombie-Britannique. font état, à la deuxième entrevue, de meilleurs gains que les personnes qui sont restées dans la même province. Les revenus des femmes qui ont quitté l'Ontario ont diminué, sauf si elles ont émigré aux provinces maritimes. Les revenus des hommes qui ont quitté l'Alberta ont diminué, sauf s'ils ont émigré au Québec. Les revenus des femmes qui ont quitté l'Alberta ont diminué, sauf si elles ont émigré en Colombie-Britannique. Les revenus des hommes qui ont quitté la Colombie-Britannique ont augmenté, sauf s'ils ont émigré aux provinces maritimes. Les revenus des femmes qui ont quitté la Colombie-Britannique ont augmenté, sauf si elles ont émigré aux provinces maritimes ou en Alberta.

Acknowledgements

We gratefully acknowledge the research assistance of Maud Rivard and the financial assistance of the Applied Research Branch of Human Resources Development Canada and Social Sciences and Humanities Research Council. We also thank three anonymous referees for their comments on the December 1999 draft of this paper and Scott Murray of Statistics Canada for his encouragement and support.

Table of Contents

1. Introduction 1

2. The National Graduates Surveys Data 3

2.1 Sample Selection 5

3. An Overview of Labour Market Outcomes and Mobility 7

4. The Effects of Mobility on Labour Force Status 20

4.1 First Interview 20

4.2 Second Interview 23

5. The Effects of Mobility on Earnings 28

5.1 First Interview 28

5.2 Second Interview 32

6. The Effects of Labour Market Outcomes on Mobility 39

7. Conclusions 43

References 45

1. Introduction

In Burbidge and Finnie (2000), we used the 1982, 1986 and 1990 cohorts of the National Graduates Surveys to study the inter-provincial migration of Bachelor's level university graduates. These three waves of the NGS permit us to observe each cohort at four points – pre-university (pre-school), graduation from university, two years after graduation (the first interview) and five years after graduation (the second interview). For these three cohorts, we found that mobility rates were high for university graduates relative to the rest of the adult population. In addition, mobility patterns were heavily dependent on the type of move (to school, to the first or second interview) and the cohort. Mobility rates to attend university for Canada as a whole lay between 6 and 7 percent over our data period, while mobility rates from pre-university to the second interview were from 13 to 15 percent. We showed that mobility rates to school were approximately constant across the three cohorts but mobility to the second interview, where labour market factors presumably play a greater role, declined.

For all three cohorts, Nova Scotia was a magnet for individuals going to university, whereas there was net out-migration from the province between pre-university and the second interview. Focusing on moves from pre-university to the second interview, Alberta was the principal magnet for the 1982 cohort; British Columbia and Ontario were the magnets for the 1986 cohort; and British Columbia, Alberta and to a lesser extent Ontario were the magnets for the 1990 cohort.

In this paper we study the relationships between mobility and employment outcomes such as the level of real earnings and employment status. We know, for example, from Ross Finnie's earlier research with the Longitudinal Administrative Databank (LAD) (Finnie 1998b, c) that individuals typically experience large increases in earnings upon moving and are then quickly integrated into the "new" labour market, and that these effects are especially large for young workers. Baccalaureates may experience even larger paybacks because of the more national scope of the labour markets they face and their steeper than average age-earnings profiles. On the other hand, the school-to-work transition comprises a turbulent period, with some graduates experiencing slow starts and set-backs along the way, while individuals are also making important personal decisions with respect to where they want to live, family formation and so on,

which could lead to inter-provincial movements being associated with smaller gains or even negative changes for at least some graduates. Similarly, while Finnie (1998a,b,d) identified the individual and situational characteristics (including labour market attributes) associated with higher or lower probabilities of moving, these relationships might well be different for recent university graduates. These are empirical questions that can be resolved only with a detailed and close analysis of the data.

One major conclusion of Burbidge and Finnie (2000) is that the inter-provincial mobility of baccalaureate graduates has not been a matter of moving away for a brief time to go to university or to gain a few years of labour market experience elsewhere before returning "home." Instead, mobility has been more permanent with less than one-quarter of those who moved at some point returning to the pre-university province by the second interview. In our paper we divided people into three major groups: (a) those who never moved; (b) "returners" who moved at some point but whose pre-university and second-interview provinces were the same; (c) "non-returners" who comprise everyone else, that is, they moved at some point and their pre-university and second-interview provinces were different. Section 3 of this paper examines the relationships between labour market outcomes and these categories of movers and stayers. These results set the stage for a more detailed examination of the relationships between employment status, earnings and mobility. In sections 4 and 5 we study the effects of mobility on labour force status and earnings, at the first and second interviews. In section 6 we turn this around and look at the probability of moving between the first and second interviews as a function of labour market outcomes and other variables at the first interview. In the last section, we pull the various components of the paper together and present our conclusions.

2. The National Graduates Surveys Data

The National Graduates Surveys

The National Graduates Surveys (NGS), sponsored by Human Resources Development Canada and conducted by Statistics Canada, are specifically designed to obtain information on the relationship between education/training and labour market activities, the long-term labour market experiences of graduates, the employment, earnings, occupation and additional educational experiences and qualifications of graduates. The NGS focus on individuals who had obtained a degree, diploma or certificate from a trade/vocational school, a career/technical college (or CEGEP) or a university, and who were still living in Canada at the time of the survey. The NGS files are representative of the underlying graduate population in Canada.

Background

Statistics Canada conducted a first survey in 1978 on the labour market experiences of 1976 graduates from universities and community colleges in Canada. In 1984, a similar survey, the NGS of 1982 graduates was sponsored jointly by the Department of the Secretary of State and Employment and Immigration Canada and conducted by Statistics Canada. This survey expanded on the content of the previous survey and extended the population base to include graduates of trade/vocational programs in addition to graduates from community colleges and universities.

Since 1982, four cohorts of graduates have been surveyed. Every cohort was interviewed two and five years after graduation.

Year of graduation	First interview	Follow-up interview
1982	1984	1987
1986	1988	1991
1990	1992	1995
1995	1997	2000

The 2000 Follow-up Survey of the 1995 Graduates included a 'brain drain' component. Those who graduated in 1995 but who were living in the United States in June 2000 were included in the survey.

Objectives

The survey's key data objectives are:

- To obtain information for labour market analysis;
- To obtain information on the relationship between education/training and labour market experiences and the exposure of graduates to additional learning opportunities;
- To extend available information required to improve occupational supply and demand projection models and to conduct related studies of supply-demand imbalances in the labour market;
- To extend available information required to improve occupational supply and demand projection models and to conduct related studies of supply-demand imbalances in the labour market;
- To obtain data regarding longer-term market experiences of graduates;
- To obtain information on labour market experiences of members of target groups (such as women, visible minorities, native people, and persons with disabilities);

- To gain a better understanding of school-work transitions and returns to human capital;
- To gain a better understanding of post-secondary education financing;
- To obtain more detailed information on knowledge and skills.

Methodology

The National Graduates Surveys were based on a stratified systematic random sample design. For each province, the graduate population was stratified into five education levels: trade/vocational (skilled trades), career/technical (college), undergraduate, master's level and doctorate. The levels were subsequently stratified into nine fields of study for those who had taken a college program and ten fields for trade/vocational and university graduates. These fields of study classifications were based on the 5-digit USIS (University Student Information System) and CCSIS (Community College Student Information System) codes used by Statistics Canada. The sample allocation to the strata was made to assure acceptable levels of detail and therefore acceptable data reliability for the provinces, education levels and fields of study.

A total sample was selected for every cohort of graduates. Interviewers attempted to contact all graduates in the sample, initially using the telephone numbers provided by their institution. On average for every cohort, 73% of the total sample selected were contacted and interviewed. The same individuals were contacted again for the follow-up interview.

Year of graduation	Total sample selected	Year of survey	Usable sample (response rate)
1982	49,150	1984	35,717 (73%)
		1987	31,167
1986	53,136	1988	40,814 (77%)
		1991	35,401
1990	51,111	1992	36,280 (71%)
		1995	35,816
1995	61,759	1997	43,040 (70%)
		2000	To be completed

For more detailed information on methodology, see:

Clark, Warren, Margaret Laing and Edith Rechnitzer (1986). *The Class of 82: Summary Report on the Findings of the 1984 National Survey of the Graduates of 1982*, Secretary of State and Statistics Canada.

Clark, Warren (1991). *The Class of 1986: A Compendium of Findings of the 1988 National Graduates Survey of 1986 Graduates with Comparisons to the 1984 National Graduates Survey*, Employment and Immigration Canada and Statistics Canada, Catalogue LM-198E92.

Little, Don and Louise Lapierre (1996). *The Class of 90: A Compendium of Findings from the 1992 National Graduates Survey of 1990 Graduates*, Human Resources Development Canada and Statistics Canada, Catalogue SC-125-12-96E.

Taillon, Jacques and Mike Paju (1999). *The Class of '95: Report of the 1997 National Survey of 1995 Graduates*, Human Resources Development Canada and Statistics Canada, Catalogue SP-121-04-99.

The research reported here is based on these three sets of graduates, comprising large, stratified random samples (by level, discipline, and province) of individuals who completed a post-secondary diploma in 1982, 1986, and 1990, each group interviewed two and five years following graduation (1984/87, 1988/91, 1992/95).[1]

The analysis exploits several unique aspects of the NGS databases. First, the databases contain information on the province in which the individual lived at four different points in time: the province in which the individual lived before enrolling in the degree program; the province of the institution from which the degree was granted; and the province or territory in which the individual was living at the time of each of the interviews, two and five years following graduation.[2] Second, the large number of observations of recent graduates available in the NGS files permits us to focus on the mobility patterns of this specific – and generally very mobile – group of Canadians in a way that no other database could. Third, and related, the stratified nature of the database allows for even the smaller provinces and less-popular disciplines of study, which are over-sampled, to be included in the analysis. Finally, the databases contain a wealth of information on the educational experiences and post-graduation school-to-work transition of graduates, as well as basic demographic characteristics.

2.1 Sample Selection

This paper focuses on baccalaureate graduates, who comprise most of the university graduates in any given year. Of course, selecting on baccalaureate graduates reduces sample sizes to about one-third of the full data set because the survey also covers college and Master's and Ph.D. Graduates. In addition, the working samples include only those baccalaureate graduates who resided in one of the ten provinces at each of the four points in time: before school, during school, two years following graduation, and five years following graduation. We also excluded graduates who were less than 20 years old or more than 30 at the time of graduation, as well as

---

1 A more recent survey of graduates has been initiated, but this group (the graduates of 1995) has been interviewed just one time to date and is thus not included in this analysis.

2 Individuals who moved out of the country have not been included in the NGS to date, meaning that this aspect of migration cannot be studied with the existing NGS databases. Plans are afoot, however, to attempt to follow emigrants in future surveys.

those who had obtained a new diploma or were still in school at the first or second interview.[3] These selection criteria, which yield 4,284, 5,534 and 4,562 observations for the 1982, 1986 and 1990 cohorts, enable us to focus on a relatively homogeneous group of young graduates who had completed their studies and were generally going through the critical school-to-work transition phase of their careers (and lives generally) over the intervals covered.

[3] On-going students were identified based on questions that asked if the individual was working part-time or was out of the labour force at the time of the interview primarily for this reason. (Except for the first cohort, the NGS have not generally directly ascertained enrolment status as of the interview dates.)

3. An Overview of Labour Market Outcomes and Mobility

Since the data samples for some of the smaller provinces are thin and since we look at labour market outcomes by specific move later in the paper (e.g., the effects on earnings of moving between the Maritimes and Ontario) we begin by grouping the provinces into six province/regions—the Maritimes (abbreviated to MAR), Quebec (QUE), Ontario (ONT), the Prairies less Alberta (PRA), Alberta (AL) and British Columbia (BC). Our earlier paper showed that it is important to distinguish Manitoba and Saskatchewan from Alberta. We then classify each person into one of six mobility categories: (a) those did not move at all; (b) "returners" who moved only to school; (c) other "returners" (e.g. someone who moved from Ontario to the Maritimes to go to university and who then was in BC at the first interview but back in Ontario at the second interview); (d) "non-returners" whose first move was to university; (e) "non-returners" whose first move occurred at the first interview; and (f) "non-returners" whose first move occurred at the second interview.

Table 1 presents statistics on labour market outcomes and personal characteristics by interregional mobility category. The first four pages comprise data on males; the next four pages data on females. One important result of our earlier paper was that the migration behaviour of men and women is very similar. Table 1 confirms this result. The percentage of the 1982, 1986 and 1990 cohorts of men who do not move at all are 81, 82 and 83; the corresponding percentages for women are 81, 83 and 84. The percentage distribution across the other five mobility categories are also very similar for men and women, and very stable across the three cohorts. Non-returners outnumber returners by about 4 to 1, and the most likely non-returner is one whose first move is observed at the first interview, *not* moving to university or moving at the second interview. Among returners, those who move only to school are slightly more numerous than all other returners.

The first page of Table 1 shows labour force status by mobility category. Those working 30 or more hours per week are classified as "full time" (FT); and those who are working between 1 and 29 hours per week are "part time" (PT). The NGS questionnaires asked each PT worker why she or he was not working full time. One of the possible answers was that she/he was working part time because she/he could not find full-time employment. We classify such PT respondents as

"part time involuntary" (PTINVOL); all other PT individuals are lumped into "part time voluntary" (PTVOL). As we shall see, behaviour across the two PT categories is very different. Those who are looking for work but cannot find work are classified as unemployed (UNEMP) and finally, the residual category, is "not in the labour force" (NLF). For each mobility category, the percentages for FT, PTVOL, PTINVOL, UNEMP and NLF must sum to 100 percent (except for rounding error).

Inspection of the first and fifth pages of Table 1 reveals that even though the migration behaviour of men and women may be similar, labour market outcomes are quite different. For all cohorts and at both interviews, men are very likely to be full-time workers; women are less likely to be full-time workers. For example, in the did-not-move category FT at the first interview is nearly constant for men at 87 percent; for women it rises from 76 percent for the 1982 cohort to 81 percent for the 1990 cohort. At the second interview the percentages for men are 90, 91 and 92; for women they are 77, 78 and 81. So there is evidence of convergence but in these surveys at least labour market outcomes for men and women are different.

The smaller sample sizes for returners and non-returners relative to non-movers mean that the percentages in these categories are noisier than those for non-movers and patterns are more difficult to discern. For men, the percentage who are full-time is always greater for non-returners whose first move occurred at the first interview than for non-movers. This is not true for women. That fewer women are full-time workers means that more are in the other categories but unemployment rates for women tend to be lower than those for men. Thus, it is to the part-time and not-in-the-labour-force categories that women move. For men, and to a lesser extent for women, unemployment and part-time-involuntary percentages tend to fall between the first and second interviews, for all cohorts and mobility categories. It is also worth noting that for women PTVOL rises in 15 of the 18 cases between the first and second interviews. The demand by women for part-time work while raising families likely affects both mobility and labour market outcomes.

The second and sixth pages of Table 1 report estimates of average annual earnings in 1995 dollars at the first and second interviews. By comparing the numbers in the returners and non-returners columns to those in the didn't-move column we obtain a sense of the raw correlation

between earnings and mobility with six observations (three cohorts times two interviews). For men, mobility is associated with higher earnings. The association is strongest for non-returners who moved first at the first interview, and next for non-returners who moved first to go to university. It is weakest for returners who did not move only to go to university. Non-returners who moved first at the first interview earn on average about $4,000 more than non-returners who moved first to go to university and the latter earn about $2,000 more than non-movers. For women, it is not clear that mobility is associated with any increase in earnings. Indeed, the average of the six observations in the didn't-move column is about $4,000 higher than average earnings in the returners-school column. Once again, we see that the strong parallels between male and female migration behaviour do not carry over to labour market outcomes.

An obvious collection of variables to have included as labour market outcomes in Table 1 would have been occupation and industry variables. Our preliminary results indicated that these did not vary markedly by mobility and thus we have concentrated our efforts in other directions. There has been and continues to be strong interest in the growth of self-employment and we have therefore included the percentage of self-employed in Table 1. There is a very strong tendency for the percentage self-employed to rise between the first and second interviews for both women and men. Generally, women have lower self-employment rates than men. In the 1990 cohort, for example, the percentages of men who were self-employed in the didn't move category rose from 6.8 percent at the first interview to 12.4 percent at the second. For women the corresponding percentages were 3.5 and 5.5 percent, respectively. For men, returners who moved only to school were most likely to have the highest rates of self-employment, followed by non-returners who moved first to school. For women, it was non-returners who moved first to school who were likely to have the highest rates of self-employment, followed by both groups of returners. One might have thought that in order to start one's own business one would have to be in an area some time to get to know clients and market conditions. Surprisingly, the didn't move group never has the highest rate of self-employment, for either women or men.

The NGS data sets record the number of months between starting the full-time job held at each interview (if such a job exists) and the interview. TENURE, reported in Table 1, is the average for this variable. One would expect, for both women and men, that, at either interview, this average would be highest in the didn't move category and, for any given mobility category, would

rise between the first and second interviews. While these results hold with very few exceptions it is striking how small the differences are between movers and stayers. Consider the 1982 cohort of males at the first interview. Average tenure for those who didn't move was 1.2 months but this equalled average tenure for non-returners who were observed to have moved for the first time at the first interview. It may be that many who move stay with the same employer. We exploit TENURE to control for individual heterogeneity in the following sections.

Moving costs money (among other things). While the NGS data sets do not report parents' incomes they do report mother's and father's education levels. We created dummies for two levels of father's education—primary and university—DADPRIM and DADUNIV, and the corresponding variables for mothers—MOMPRIM and MOMUNIV. If it were true that family resources facilitate mobility, one would expect that, for movers, the averages of the primary education variables would be lower and the averages of the university education variables would be higher. These results hold for both men and women in Table 1 and the minima for the PRIM rows and the maxima for the UNIV rows never occur in the didn't move column. We use parents' education to control for individual heterogeneity in the following sections.

Marital status and children variables may also affect the relationship between labour market outcomes and mobility. One might think that those who are single would be more likely to move in response to earnings differentials and that those who are married, particularly those with children, would be less likely to move. In Table 1 we report the percentages only for three of the more common marital status/children dummy variables—single, no children (SGLNC), married, no children (MARNC) and married parents (MARPAR), for both the first and second interviews. For each mobility category there is, of course, the natural progression from single to married no children to married with children between the first and second interviews. And it is true that, in most cases, for both women and men, the percentages in the mover columns for single are higher than the percentages in the non-mover column, and vice versa for those who are married. Nevertheless, it is evident that there is a great deal of heterogeneity in this aspect of behaviour and it is easy to imagine models that would have the opposite results, e.g., women and men with promising careers may marry early and move together.

Table 1 Labour Market Outcomes and Personal Characteristics by Inter-Regional Mobility Category

Males							
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
1982 Cohort: 2165 Observations							
First Interview							
FT	87.4	86.6	90.6	93.4	86.5	94.7	85.7
PTVOL	0.8	1.0	0.0	0.0	0.0	0.1	1.4
PTINVOL	3.3	3.7	0.8	3.4	0.8	1.9	2.6
UNEMP	7.2	7.4	8.7	3.2	12.3	3.3	8.6
NLF	1.2	1.4	0.0	0.0	0.4	0.0	1.8
Second Interview							
FT	90.1	89.7	91.1	95.4	97.4	92.0	84.6
PTVOL	2.4	2.7	2.3	0.7	0.0	1.5	0.5
PTINVOL	0.3	0.3	2.3	0.0	0.0	0.0	0.0
UNEMP	3.8	3.7	2.9	3.9	1.2	5.6	3.1
NLF	3.5	3.6	1.4	0.0	1.3	0.9	11.8
Percentages	***100***	***81***	***2***	***2***	***4***	***8***	***3***
1986 Cohort: 2758 Observations							
First Interview							
FT	87.0	86.9	86.6	81.8	87.7	90.2	86.7
PTVOL	1.4	1.4	3.7	2.4	0.3	0.8	0.5
PTINVOL	1.6	1.4	0.6	0.0	4.9	2.0	1.4
UNEMP	9.0	9.1	9.2	15.0	5.7	6.7	11.4
NLF	1.1	1.2	0.0	0.8	1.3	0.3	0.0
Second Interview							
FT	90.9	91.2	88.8	82.3	90.8	91.8	88.8
PTVOL	1.4	1.2	0.9	1.5	3.5	3.4	0.6
PTINVOL	0.4	0.4	0.0	2.4	0.0	0.6	0.6
UNEMP	6.8	6.8	9.4	10.7	5.0	4.2	10.0
NLF	0.5	0.5	0.8	3.0	0.7	0.0	0.0
Percentages	***100***	***82***	***3***	***1***	***5***	***5***	***4***
1990 Cohort: 2131 Observations							
First Interview							
FT	87.2	86.7	86.3	81.0	98.7	92.0	83.7
PTVOL	1.5	1.4	4.6	0.0	0.0	1.4	3.1
PTINVOL	2.8	3.0	4.1	0.0	0.0	0.4	4.0
UNEMP	7.9	8.1	5.0	19.0	1.3	6.2	9.2
NLF	0.6	0.7	0.0	0.0	0.0	0.0	0.0
Second Interview							
FT	92.3	92.1	93.0	85.9	91.8	94.2	98.0
PTVOL	1.5	1.5	2.6	0.0	0.0	2.5	0.0
PTINVOL	0.9	0.7	0.0	1.0	5.4	0.0	1.2
UNEMP	4.5	4.7	4.4	11.3	2.8	2.4	0.7
NLF	0.9	1.0	0.0	1.7	0.0	0.9	0.0
Percentages	***100***	***83***	***3***	***2***	***3***	***5***	***4***

Table 1 (continued)

			Males				
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
			1982 Cohort				
			First Interview				
EARNINGS	31315	30669	35347	36462	32220	35849	29400
SELFEMP	8.1	8.3	16.1	3.0	9.6	5.6	8.0
TENURE	1.2	1.2	1.0	1.2	1.0	1.2	0.8
			Second Interview				
EARNINGS	40388	39857	46339	38871	41963	43948	40265
SELFEMP	11.7	11.7	20.5	12.0	13.6	9.9	7.4
TENURE	3.2	2.4	2.1	1.7	2.2	2.8	1.8
			Parents' Education				
DADPRIM	37.5	38.6	27.8	33.7	29.4	35.6	30.9
DADUNIV	23.9	22.8	36.0	29.4	29.4	22.2	41.1
MOMPRIM	33.5	34.9	23.5	21.9	27.9	30.9	21.9
MOMUNIV	10.9	10.6	10.7	15.5	15.3	10.8	13.1
			1986 Cohort				
			First Interview				
EARNINGS	30422	30111	33105	28973	31790	33782	29625
SELFEMP	6.3	6.2	4.2	4.3	9.3	5.4	6.2
TENURE	1.1	1.1	1.1	1.0	0.8	1.0	1.2
			Second Interview				
EARNINGS	37849	37610	34511	35683	38615	43038	37970
SELFEMP	10.4	10.5	11.4	12.1	14.9	10.0	3.3
TENURE	2.9	2.3	2.2	1.6	2.1	2.2	1.8
			Parents' Education				
DADPRIM	29.3	29.7	29.4	15.9	28.7	31.0	25.0
DADUNIV	27.2	25.7	25.5	36.6	32.7	39.8	33.4
MOMPRIM	28.5	30.2	17.2	14.2	17.0	29.4	18.1
MOMUNIV	13.8	12.7	22.4	26.2	24.3	13.6	14.9
			1990 Cohort				
			First Interview				
EARNINGS	29086	28628	28506	29812	32385	34496	29067
SELFEMP	6.8	6.8	9.2	0.0	3.5	5.8	11.1
TENURE	1.6	1.7	1.6	1.6	1.5	1.4	1.4
			Second Interview				
EARNINGS	36857	35822	38335	36262	38599	45430	44945
SELFEMP	12.5	12.4	19.7	6.1	10.9	9.7	15.8
TENURE	2.9	3.0	2.6	2.2	2.7	3.0	2.2
			Parents' Education				
DADPRIM	27.1	27.8	28.0	17.1	24.5	22.8	25.1
DADUNIV	30.5	29.8	39.8	35.7	32.1	31.3	32.8
MOMPRIM	25.6	26.6	26.0	18.4	25.0	20.7	13.2
MOMUNIV	17.4	17.3	23.5	13.3	19.5	15.8	16.3

Table 1 (continued)

Males							
			RETURNERS Moved Only to:		NON-RETURNERS First Move to:		
Variable	All	Did Not Move	School	Other	School	First Int.	Second Int.
			1982 Cohort				
			First Interview				
SGLNC	66.7	66.3	56.2	65.9	72.3	69.0	72.5
MARNC	22.5	22.7	30.9	21.4	16.4	22.4	20.4
MARPAR	10.0	10.3	12.6	12.7	11.3	7.5	4.9
			Second Interview				
SGLNC	44.4	44.1	42.8	37.2	47.2	47.2	46.4
MARNC	29.6	29.7	32.3	40.0	27.9	24.6	33.5
MARPAR	24.5	24.8	23.9	22.5	23.2	25.4	17.2
			Field of Study				
ALLED	10.3	10.7	6.3	4.5	6.3	12.8	4.1
FINEHU	8.8	9.1	5.8	22.8	9.5	5.1	2.9
OTHHEA	12.3	11.7	18.6	17.6	19.2	12.7	9.8
AGE	26	26	26	26	27	26	25
			1986 Cohort				
			First Interview				
SGLNC	68.7	67.8	68.5	81.4	73.4	72.2	74.3
MARNC	21.8	22.7	16.0	12.3	20.1	19.4	16.0
MARPAR	8.4	8.5	14.2	4.7	5.5	7.1	9.3
			Second Interview				
SGLNC	48.0	47.5	43.2	50.6	49.4	54.5	50.4
MARNC	28.4	28.3	28.5	32.7	30.6	24.0	31.2
MARPAR	21.7	22.3	25.9	11.9	19.4	18.9	17.6
			Field of Study				
ALLED	8.3	8.3	5.2	3.8	13.2	6.8	8.5
FINEHU	9.4	8.9	13.7	7.8	12.8	14.5	6.8
OTHHEA	13.1	12.2	13.8	8.0	21.9	19.3	14.7
AGE	26	26	27	25	26	26	26
			1990 Cohort				
			First Interview				
SGLNC	67.2	66.7	74.1	68.6	63.0	67.8	73.4
MARNC	22.8	22.9	16.2	25.1	25.1	24.0	23.2
MARPAR	8.3	8.5	8.9	4.6	11.2	7.8	3.0
			Second Interview				
SGLNC	44.0	44.4	48.1	49.0	28.1	38.4	52.9
MARNC	32.2	31.8	29.0	26.6	49.7	38.0	24.1
MARPAR	21.1	21.2	21.5	20.0	19.6	21.0	20.9
			Field of Study				
ALLED	11.4	11.8	7.6	7.6	7.8	11.0	10.5
FINEHU	10.6	10.4	14.9	9.4	12.1	5.6	16.5
OTHHEA	10.9	9.9	25.2	6.3	11.7	18.2	13.3
AGE	27	27	27	27	27	27	26

Table 1 (continued)

			Males				
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
			1982 Cohort				
			Pre-University Region/Province				
MAR	8.4	5.9	25.9	20.4	16.6	20.8	13.0
QUE	29.8	31.6	23.4	11.5	29.0	20.7	23.2
ONT	38.4	41.0	18.1	40.0	11.5	33.8	27.3
PRA	7.9	6.6	2.7	11.6	10.2	16.9	17.5
AL	8.9	8.6	16.3	13.2	22.4	2.9	9.3
BC	6.5	6.3	13.5	3.3	10.4	5.0	9.7
			Second Interview Region/Province				
MAR	7.3	5.9	25.9	20.4	16.1	7.9	10.1
QUE	28.1	31.6	23.4	11.5	7.6	16.2	5.8
ONT	39.2	41.0	18.1	40.0	34.8	31.3	33.2
PRA	7.0	6.6	2.7	11.6	10.8	7.3	10.5
AL	11.7	8.6	16.3	13.2	18.5	30.9	29.0
BC	6.7	6.3	13.5	3.3	12.3	6.3	11.5
			1986 Cohort				
			Pre-University Region/Province				
MAR	8.4	5.6	10.1	32.5	21.6	21.5	25.3
QUE	30.8	33.2	19.5	21.0	20.9	23.3	13.1
ONT	37.1	41.5	33.4	3.9	10.5	10.9	25.0
PRA	9.0	6.6	13.0	12.0	22.6	22.5	22.2
AL	7.8	7.1	8.5	15.8	10.6	14.6	7.3
BC	6.8	6.0	15.6	14.9	13.8	7.2	7.0
			Second Interview Region/Province				
MAR	6.8	5.6	10.1	32.5	13.3	7.3	14.0
QUE	29.4	33.2	19.5	21.0	10.2	5.4	13.6
ONT	41.2	41.5	33.4	3.9	48.5	51.5	29.8
PRA	7.0	6.6	13.0	12.0	8.7	5.1	9.4
AL	8.2	7.1	8.5	15.8	11.4	13.4	17.3
BC	7.4	6.0	15.6	14.9	7.9	17.2	15.8
			1990 Cohort				
			Pre-University Region/Province				
MAR	8.0	5.3	15.5	21.5	15.0	31.6	17.2
QUE	25.8	27.2	16.0	30.0	27.2	16.6	11.7
ONT	40.7	44.4	30.8	23.6	19.7	10.3	35.3
PRA	8.4	6.1	4.3	14.6	18.0	26.4	25.5
AL	8.4	8.3	10.7	7.8	8.1	10.5	6.0
BC	8.7	8.7	22.8	2.4	11.9	4.6	4.2
			Second Interview Region/Province				
MAR	7.0	5.3	15.5	21.5	18.4	9.5	17.5
QUE	24.5	27.2	16.0	30.0	6.3	6.5	10.2
ONT	42.0	44.4	30.8	23.6	32.2	37.3	21.1
PRA	6.0	6.1	4.3	14.6	5.3	4.2	5.5
AL	9.6	8.3	10.7	7.8	11.7	22.8	19.5
BC	10.9	8.7	22.8	2.4	26.3	19.7	26.2

Table 1 (continued)

Females							
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
1982 Cohort: 2119 Observations							
First Interview							
FT	76.8	76.0	74.0	87.9	79.8	84.8	72.7
PTVOL	3.3	3.5	0.0	0.3	6.7	1.4	2.2
PTINVOL	7.3	7.9	7.7	8.3	2.4	2.6	6.6
UNEMP	7.6	7.4	13.9	2.9	5.1	6.9	13.1
NLF	5.1	5.2	4.3	0.6	6.0	4.3	5.3
Second Interview							
FT	76.0	76.5	73.8	67.1	76.7	74.3	75.3
PTVOL	9.7	10.1	14.6	13.1	6.6	7.2	3.9
PTINVOL	2.4	2.3	0.5	6.6	0.0	4.7	2.1
UNEMP	4.0	3.3	9.8	6.9	3.0	5.9	10.2
NLF	7.8	7.7	1.3	6.2	13.8	7.9	8.5
Percentages	***100***	***81***	***2***	***2***	***4***	***7***	***4***
1986 Cohort: 2776 Observations							
First Interview							
FT	79.8	80.2	70.2	68.3	83.2	77.8	81.3
PTVOL	4.1	4.5	6.1	0.7	0.5	2.7	3.0
PTINVOL	4.9	5.1	7.1	1.9	3.7	4.1	2.8
UNEMP	8.1	7.4	9.4	22.6	8.8	11.5	10.4
NLF	3.1	2.8	7.3	6.4	3.7	3.8	2.4
Second Interview							
FT	78.0	77.8	90.2	75.5	77.0	74.4	80.7
PTVOL	7.9	7.9	3.5	9.6	8.8	7.6	8.5
PTINVOL	2.2	2.4	1.1	0.0	0.6	1.8	1.8
UNEMP	6.3	6.2	4.1	10.9	6.4	7.6	6.1
NLF	5.6	5.7	1.1	4.0	7.2	8.6	3.0
Percentages	***100***	***83***	***2***	***2***	***4***	***5***	***5***
1990 Cohort: 2431 Observations							
First Interview							
FT	80.3	80.6	59.9	86.3	79.0	80.1	84.9
PTVOL	2.5	2.4	1.6	2.4	1.8	5.1	2.4
PTINVOL	5.9	5.9	14.3	4.8	9.8	1.9	2.2
UNEMP	8.3	8.0	17.2	3.7	6.7	10.9	7.1
NLF	3.1	3.0	7.0	2.8	2.6	2.0	3.4
Second Interview							
FT	81.5	81.4	69.3	74.8	86.8	82.4	87.2
PTVOL	6.3	6.3	15.6	9.4	4.2	5.2	1.9
PTINVOL	2.7	2.6	2.8	3.0	3.9	3.2	4.5
UNEMP	3.9	4.1	2.3	0.4	2.1	3.7	2.2
NLF	5.6	5.5	10.0	12.5	2.9	5.5	4.2
Percentages	***100***	***84***	***2***	***1***	***4***	***5***	***4***

Table 1 (continued)

Females							
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
			1982 Cohort				
			First Interview				
EARNINGS	24588	24204	21939	29346	27290	27237	24484
SELFEMP	3.3	3.1	6.9	13.5	2.2	3.8	0.7
TENURE	1.1	1.1	1.0	0.9	1.0	1.0	0.9
			Second Interview				
EARNINGS	28848	29121	23902	28494	30175	28396	26267
SELFEMP	6.2	6.4	7.7	7.8	5.8	4.6	4.0
TENURE	2.3	2.4	2.1	1.4	2.2	2.0	1.4
			Parents' Education				
DADPRIM	37.1	37.8	59.0	56.6	31.1	27.7	20.8
DADUNIV	22.8	21.0	22.1	16.0	40.6	30.5	33.6
MOMPRIM	33.9	34.6	49.1	52.4	23.3	26.0	24.1
MOMUNIV	11.1	10.2	14.6	4.5	25.6	11.5	15.5
			1986 Cohort				
			First Interview				
EARNINGS	24877	25181	20282	21662	26168	23896	22752
SELFEMP	2.8	2.7	6.5	0.0	1.9	1.9	6.0
TENURE	1.2	1.2	0.6	0.6	1.2	0.8	0.8
			Second Interview				
EARNINGS	28833	28757	32739	28070	30452	25374	30597
SELFEMP	6.7	6.5	11.5	1.5	13.1	3.9	8.2
TENURE	2.2	2.3	1.7	1.4	1.8	2.0	1.1
			Parents' Education				
DADPRIM	30.0	30.5	19.1	28.3	31.0	35.3	21.1
DADUNIV	24.8	23.9	41.3	23.7	27.3	23.4	32.5
MOMPRIM	28.3	29.4	20.4	41.5	28.4	23.2	13.8
MOMUNIV	12.4	11.9	10.3	13.0	15.5	14.9	17.7
			1990 Cohort				
			First Interview				
EARNINGS	25446	25431	21348	25471	25532	26942	26020
SELFEMP	3.6	3.5	4.3	7.4	9.9	1.5	0.9
TENURE	1.6	1.7	1.3	1.0	1.3	1.2	1.5
			Second Interview				
EARNINGS	29466	29597	24475	28306	26620	30880	30685
SELFEMP	6.1	5.5	7.1	8.4	11.2	7.6	8.9
TENURE	3.0	3.2	2.4	1.9	2.7	2.5	2.2
			Parents' Education				
DADPRIM	32.3	33.2	25.6	30.1	22.9	30.8	28.5
DADUNIV	27.0	25.4	43.7	39.5	43.9	29.6	28.3
MOMPRIM	28.9	30.3	19.1	22.0	19.9	21.7	24.3
MOMUNIV	15.1	13.8	32.8	18.2	26.9	19.0	16.4

Table 1 (continued)

Females							
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
			1982 Cohort				
			First Interview				
SGLNC	59.3	57.6	73.2	64.1	64.4	63.8	69.2
MARNC	28.4	29.2	17.9	34.4	26.7	26.4	21.1
MARPAR	9.6	10.4	7.5	1.5	5.8	6.3	7.8
			Second Interview				
SGLNC	39.8	39.9	62.3	35.2	41.2	33.0	37.7
MARNC	34.1	33.5	13.6	40.3	37.2	41.7	39.4
MARPAR	22.9	23.7	22.8	19.7	21.2	19.6	16.6
			Field of Study				
ALLED	26.2	27.3	27.0	22.9	14.7	20.7	26.2
FINEHU	15.8	15.1	16.6	22.2	25.2	17.9	13.8
OTHHEA	17.2	17.0	22.0	16.3	15.3	20.9	15.0
AGE	26	26	26	25	26	26	26
			1986 Cohort				
			First Interview				
SGLNC	62.4	61.5	53.5	77.0	68.9	59.3	73.9
MARNC	27.4	28.2	23.5	19.6	26.4	28.7	17.6
MARPAR	7.9	8.1	13.0	3.4	2.9	10.7	6.0
			Second Interview				
SGLNC	38.7	37.8	40.4	56.9	48.7	33.7	42.7
MARNC	34.0	33.8	27.3	27.6	34.4	40.1	36.4
MARPAR	24.6	25.7	28.7	15.5	15.5	22.9	16.9
			Field of Study				
ALLED	18.2	18.1	12.1	27.8	16.7	24.3	15.2
FINEHU	15.2	15.0	18.7	12.9	16.4	12.1	21.5
OTHHEA	17.1	16.4	28.5	18.3	18.4	18.3	21.6
AGE	26	26	26	26	26	26	25
			1990 Cohort				
			First Interview				
SGLNC	57.5	57.2	54.3	51.8	51.4	59.7	70.5
MARNC	31.9	32.0	34.5	40.7	42.3	28.3	18.1
MARPAR	8.3	8.4	6.7	6.0	5.2	10.3	8.8
			Second Interview				
SGLNC	34.4	34.5	30.0	28.8	32.3	34.2	39.8
MARNC	34.5	34.0	30.3	42.2	40.2	40.6	32.9
MARPAR	27.4	27.8	36.8	24.8	20.5	22.0	26.6
			Field of Study				
ALLED	23.7	23.9	10.7	28.4	21.3	25.5	26.4
FINEHU	12.9	12.5	10.4	15.2	28.2	9.4	14.6
OTHHEA	16.1	15.8	22.5	21.0	16.1	17.6	16.0
AGE	26	26	26	26	27	26	26

Table 1 (continued)

Females							
			RETURNERS		NON-RETURNERS		
		Did	Moved Only to:		First Move to:		
Variable	All	Not Move	School	Other	School	First Int.	Second Int.
1982 Cohort							
Pre-University Region/Province							
MAR	9.5	7.7	11.9	9.4	16.5	24.1	14.2
QUE	28.5	29.4	54.6	38.5	14.8	18.0	20.8
ONT	38.5	41.5	1.3	31.7	22.5	33.8	28.4
PRA	8.5	7.3	4.5	7.1	19.0	14.8	14.7
AL	8.0	7.5	17.4	5.8	16.5	5.0	10.2
BC	6.9	6.6	10.3	7.5	10.7	4.2	11.7
Second Interview Region/Province							
MAR	8.5	7.7	11.9	9.4	15.1	12.4	8.8
QUE	28.4	29.4	54.6	38.5	10.0	22.4	15.6
ONT	38.4	41.5	1.3	31.7	32.5	22.4	34.4
PRA	7.6	7.3	4.5	7.1	17.5	6.0	8.7
AL	9.9	7.5	17.4	5.8	17.7	25.2	23.1
BC	7.2	6.6	10.3	7.5	7.3	11.6	9.4
1986 Cohort							
Pre-University Region/Province							
MAR	10.1	6.6	21.9	19.7	27.3	39.3	22.2
QUE	30.2	32.8	20.2	23.1	18.8	15.9	14.8
ONT	35.7	39.3	21.0	32.2	8.5	12.5	25.3
PRA	9.0	7.6	7.0	10.3	14.5	16.5	21.7
AL	8.5	7.8	17.6	8.2	17.5	10.9	7.7
BC	6.5	6.0	12.2	6.4	13.5	4.9	8.4
Second Interview Region/Province							
MAR	7.9	6.6	21.9	19.7	16.0	11.5	11.2
QUE	29.1	32.8	20.2	23.1	5.1	11.2	6.9
ONT	38.7	39.3	21.0	32.2	42.0	39.3	37.0
PRA	7.9	7.6	7.0	10.3	10.3	11.4	5.7
AL	8.7	7.8	17.6	8.2	9.9	12.1	16.1
BC	7.7	6.0	12.2	6.4	16.6	14.4	23.1
1990 Cohort							
Pre-University Region/Province							
MAR	9.9	7.1	16.8	17.7	30.5	29.1	17.3
QUE	26.4	28.1	27.2	26.7	15.4	14.6	15.5
ONT	40.9	44.3	24.8	19.1	19.2	17.0	39.1
PRA	7.8	5.5	6.0	17.1	16.1	31.4	15.0
AL	8.0	7.8	14.8	11.7	9.1	6.4	8.9
BC	6.9	7.2	10.4	7.7	9.8	1.4	4.1
Second Interview Region/Province							
MAR	9.0	7.1	16.8	17.7	16.3	11.4	32.9
QUE	25.6	28.1	27.2	26.7	13.0	5.4	10.5
ONT	41.4	44.3	24.8	19.1	36.2	29.0	18.4
PRA	6.0	5.5	6.0	17.1	7.9	7.3	8.5
AL	9.1	7.8	14.8	11.7	15.5	19.9	10.4
BC	8.9	7.2	10.4	7.7	11.2	26.9	19.3

The fields of study at university comprise another group of variables that are likely to affect the interrelationships between labour market outcomes and mobility. In Table 1 we report averages for just three fields—all education (ALLED), fine arts and humanities (FINEHU) and health fields other than agriculture and biology (OTHHEA). Inspection of these rows in Table 1 reveals the expected results that women are more likely than men to be in ALLED or FINEHU, and men are more likely to be in OTHHEA. As we observed in Burbidge and Finnie (2000) there is quite a strong tendency for those in the ALLED field to be relatively less mobile; teaching certificates are not perfectly transferable across provinces. In addition, there is a tendency for those in the health field to move to go to university. One has to be careful in interpreting the latter result though because those in this field earn more than those in most other fields (see section 5 below) and as we observed above moving does cost money.

We report average age at first interview in Table 1. It is remarkably constant across the various mobility categories.

Finally, Table 1 records the percentages in each region/province prior to attending university and at the second interview for each cohort. For each cohort, at each date, the columns sum to 100 percent except for rounding. For each cohort, the columns for non-movers and returners must, of course, be the same. Once again, we observe that women and men are remarkably alike in their migration behaviour. As we noted in Burbidge and Finnie (2000) the smaller regions account disproportionately for mobility and Ontario, Alberta and BC have at various points and to a greater or lesser degree acted as magnets for those living in other parts of Canada. Net outmigration from the Maritimes is particularly prominent for those who move between university and the first interview. For Quebec, Manitoba and Saskatchewan, this occurs to go to school as well as at the first interview. In the subsequent sections we attempt to identify the effects of particular moves on labour market outcomes.

4. The Effects of Mobility on Labour Force Status

Does mobility affect whether one is employed or out of the labour force, or working full time or part-time? We attempt to answer this question by modeling the probability of being in one of the five labour force states described above—working full-time (FT), working part-time-voluntary (PTVOL), working part-time-involuntary (PTINVOL), unemployed (UNEMP) and not in the labour force (NLF).

In this section and subsequent sections we do our utmost to ensure that "independent" variables are exogenous and not determined simultaneously with the dependent variable. To illustrate this point, consider labour force status at the time of the first interview. It might be that someone who is a full-time worker in Ontario at the first interview had to move from the Maritimes to get the full-time job in Ontario, and thus mobility to the first interview and the labour force state at the first interview may be *jointly determined*. In this situation one cannot claim that mobility to the first interview is an exogenous factor determining labour force status at the first interview. So, for labour force status at the first interview, the only mobility variables we can use as independent variables are those for mobility between the region (or province) prior to attending university and the region at university. We started with a full set of thirty-five dummy variables (Maritimes pre-university to Maritimes at university, Maritimes pre-university to Quebec at university, ..., BC pre-university to BC at university; Ontario pre-university to Ontario at university is the omitted category) but as one might expect from the small percentages of those in these labour force states in Table 1 combined with the low percentages of movers (again, see Table 1) there are several cells with no observations. In the end, we were able to estimate coefficients for only ten of the thirty-five mobility variables (MAR-MAR, QUE-MAR, QUE-QUE, ONT-MAR, ONT-QUE, PRA-PRA, AL-PRA, AL-AL, BC-PRA, BC-BC).

4.1 First Interview

It is obvious from Table 1 that the probability of being in one of these labour force states may depend on several other independent variables. We include age at the first interview (AGE), a female dummy variable (FEMALE), two parents' education dummy variables (DADUNIV, MOMUNIV), eight dummies for field of study at university (all education fields (ALLED), commerce (COMMER), economics (ECON), other social sciences (OTHSSC), agriculture and

biological sciences (AGBIOS), health and related fields other than biological sciences (OTHHEA), engineering and computer science (ENGCSC), and mathematics and other sciences apart from biology (MATHPH); fine arts and humanities (FINEHU) is the omitted category), and two cohort dummies (COH86 and COH90; COH82 is the omitted category).

Table 2 reports multinomial logit results for the probability of being in one of the five labour force states at the first interview. We deal with the mobility effects first and then offer some comments on the influence of the other independent variables.

For the ten mobility variables the omitted category comprises all those who lie outside the ten categories listed in the table (MAR-MAR, QUE-MAR, and so on). The omitted category is dominated numerically by those who were in Ontario prior to attending university and who stayed in Ontario to go to university, and we shall talk as if ONT-ONT is the omitted category. Cells where coefficients are statistically significant are shaded. In the part-time-voluntary column of Table 2 the first shaded cell among the mobility variables is the 0.848 coefficient for QUE-QUE. What does this coefficient mean? It means that, given the other factors controlled for in the statistical model (age, sex, parents' education, and so on), someone who resided in Quebec prior to attending university and at university was significantly more likely to be in the part-time-voluntary category than someone in the omitted category, that is, someone who resided in Ontario prior to, and at, university. How much more likely? Using the multinomial logit model one can deduce that the Quebec resident was 15 percent more likely to be in this category than the Ontario resident. Looking at the mobility coefficients as a group we see that all the statistically significant coefficients are positive and none of them represents moving to Ontario to go to university. One way of summarising the mobility results then is to say that those who went to school in Ontario were more likely to hold full-time jobs, that is, more likely not to fall into one of the four categories listed in Table 2.

All of the significant "mobility" coefficients are for people who *did not move*, with two exceptions—moving from Quebec to the Maritimes (QUE-MAR) raises the probability of being unemployed (but only by 1 percent) and moving between Alberta and the Prairies (remember, "Prairies" here means Manitoba and Saskatchewan) raises the probability of being in the part-time-voluntary category (but only by one-half of one percent). As well there is weak evidence

Table 2 **Multinominal Logit Results for the Probability of Being in Various Labour Force States at the First Interview**

	Part-time Voluntary		*Part-time Involuntary*		*Unemployed*		*Not in the Labour Force*	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**-6.332**	0.705	**-1.247**	0.591	**-0.960**	0.437	**-6.456**	0.707
AGE	**0.097**	0.025	**-0.058**	0.021	**-0.048**	0.016	**0.103**	0.025
FEMALE	**1.015**	0.140	**0.458**	0.097	-0.017	0.066	**1.519**	0.152
Mother and Father's Education; Everything other than University is Ommited								
DADUNIV	-0.149	0.150	-0.016	0.111	-0.031	0.078	0.206	0.138
MOMUNIV	0.052	0.180	-0.176	0.144	0.142	0.095	0.205	0.165
Field of Study; Fine Arts and Hummanities Comprise Omitted Category								
ALLED	**-0.784**	0.176	0.055	0.126	**-0.639**	0.118	**-0.853**	0.181
COMMER	**-1.915**	0.283	**-1.804**	0.206	**-0.818**	0.124	**-0.991**	0.216
ECON	-0.801	0.407	**-1.097**	0.340	-0.151	0.188	**-1.200**	0.523
OTHSSC	**-0.767**	0.194	**-0.552**	0.149	-0.214	0.116	**-0.583**	0.187
AGBIOS	**-0.961**	0.252	**-1.176**	0.219	-0.099	0.130	**-0.583**	0.229
OTHHEA	**-0.987**	0.178	**-1.542**	0.172	**-0.964**	0.122	**-1.747**	0.226
ENGCSC	**-2.633**	0.382	**-3.032**	0.337	**-1.042**	0.127	**-1.189**	0.251
MATHPH	**-1.320**	0.381	**-1.006**	0.247	**-0.608**	0.171	**-0.832**	0.322
Cohort Dummies; 1982 is Omitted								
COH86	0.272	0.142	-0.201	0.107	**0.268**	0.077	**-0.354**	0.133
COH90	-0.049	0.153	0.040	0.104	0.068	0.082	**-0.654**	0.146
Dummy Variables; for Certain moves between Pre-University and University								
MAR-MAR	0.135	0.206	**0.579**	0.137	**0.666**	0.093	0.300	0.179
QUE-MAR	-0.031	1.023	0.100	0.609	**0.791**	0.351	0.725	0.614
QUE-QUE	**0.848**	0.184	**0.690**	0.143	**0.510**	0.099	0.338	0.184
ONT-MAR	-0.515	1.021	0.342	0.481	0.400	0.360	0.405	0.613
ONT-QUE	0.429	1.038	-0.244	1.031	-0.944	1.023	1.229	0.645
PRA-PRA	**0.740**	0.194	0.230	0.156	0.061	0.116	**0.459**	0.189
AL-PRA	**1.324**	0.549	-0.726	1.022	-0.578	0.728	-0.143	1.027
AL-AL	**0.610**	0.207	0.074	0.178	**0.241**	0.114	0.117	0.217
BC-PRA	0.411	1.032	-0.086	1.030	0.470	0.540	0.253	1.043
BC-BC	**0.611**	0.245	**0.939**	0.168	**0.414**	0.133	**0.552**	0.224

Note: Shaded cells are significant at the 5% level.

that moving between Ontario and Quebec and Alberta and the Prairies reduces the probability of being unemployed or in the part-time-involuntary group. Remembering from Table 1 that most movers are non-returners and most non-returners move at the first interview it is perhaps not surprising that mobility to university may be a weak instrument for mobility to the first interview. No doubt the effects of mobility on labour-force status can be determined more accurately by looking at labour-force status at the second interview and using mobility between region prior to attending university and region at the first interview as an independent variable. This we do

Table 2 **Multinominal Logit Results for the Probability of Being in Various Labour Force States at the First Interview**

	Part-time Voluntary		*Part-time Involuntary*		*Unemployed*		*Not in the Labour Force*	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**-6.332**	0.705	**-1.247**	0.591	**-0.960**	0.437	**-6.456**	0.707
AGE	**0.097**	0.025	**-0.058**	0.021	**-0.048**	0.016	**0.103**	0.025
FEMALE	**1.015**	0.140	**0.458**	0.097	-0.017	0.066	**1.519**	0.152
Mother and Father's Education; Everything other than University is Ommited								
DADUNIV	-0.149	0.150	-0.016	0.111	-0.031	0.078	0.206	0.138
MOMUNIV	0.052	0.180	-0.176	0.144	0.142	0.095	0.205	0.165
Field of Study; Fine Arts and Hummanities Comprise Omitted Category								
ALLED	**-0.784**	0.176	0.055	0.126	**-0.639**	0.118	**-0.853**	0.181
COMMER	**-1.915**	0.283	**-1.804**	0.206	**-0.818**	0.124	**-0.991**	0.216
ECON	-0.801	0.407	**-1.097**	0.340	-0.151	0.188	**-1.200**	0.523
OTHSSC	**-0.767**	0.194	**-0.552**	0.149	-0.214	0.116	**-0.583**	0.187
AGBIOS	**-0.961**	0.252	**-1.176**	0.219	-0.099	0.130	**-0.583**	0.229
OTHHEA	**-0.987**	0.178	**-1.542**	0.172	**-0.964**	0.122	**-1.747**	0.226
ENGCSC	**-2.633**	0.382	**-3.032**	0.337	**-1.042**	0.127	**-1.189**	0.251
MATHPH	**-1.320**	0.381	**-1.006**	0.247	**-0.608**	0.171	**-0.832**	0.322
Cohort Dummies; 1982 is Omitted								
COH86	0.272	0.142	-0.201	0.107	**0.268**	0.077	**-0.354**	0.133
COH90	-0.049	0.153	0.040	0.104	0.068	0.082	**-0.654**	0.146
Dummy Variables; for Certain moves between Pre-University and University								
MAR-MAR	0.135	0.206	**0.579**	0.137	**0.666**	0.093	0.300	0.179
QUE-MAR	-0.031	1.023	0.100	0.609	**0.791**	0.351	0.725	0.614
QUE-QUE	**0.848**	0.184	**0.690**	0.143	**0.510**	0.099	0.338	0.184
ONT-MAR	-0.515	1.021	0.342	0.481	0.400	0.360	0.405	0.613
ONT-QUE	0.429	1.038	-0.244	1.031	-0.944	1.023	1.229	0.645
PRA-PRA	**0.740**	0.194	0.230	0.156	0.061	0.116	**0.459**	0.189
AL-PRA	**1.324**	0.549	-0.726	1.022	-0.578	0.728	-0.143	1.027
AL-AL	**0.610**	0.207	0.074	0.178	**0.241**	0.114	0.117	0.217
BC-PRA	0.411	1.032	-0.086	1.030	0.470	0.540	0.253	1.043
BC-BC	**0.611**	0.245	**0.939**	0.168	**0.414**	0.133	**0.552**	0.224

Note: Shaded cells are significant at the 5% level.

that moving between Ontario and Quebec and Alberta and the Prairies reduces the probability of being unemployed or in the part-time-involuntary group. Remembering from Table 1 that most movers are non-returners and most non-returners move at the first interview it is perhaps not surprising that mobility to university may be a weak instrument for mobility to the first interview. No doubt the effects of mobility on labour-force status can be determined more accurately by looking at labour-force status at the second interview and using mobility between region prior to attending university and region at the first interview as an independent variable. This we do

shortly but first we glance at the effects of our control variables on labour force status at the first interview.

Older workers are more likely to be in the PTVOL or NLF status and less likely to be in the PTINVOL or UNEMP status. Females are much more likely to be in one of the PT states or not in the labour force; they are less likely to be unemployed although the latter effect is not statistically significant. One might have thought those whose parents had university degrees would have been significantly more likely to hold full-time jobs at the first interview. This is not the case in Table 2—none of the parents' education coefficients is significant and the signs are evenly divided between positive and negative. With one exception, all of the coefficients on the field of study variables are negative and many are statistically significant. Clearly students in fine arts and humanities are less likely to hold full-time jobs at the first interview. Finally, the probability of unemployment was significantly higher (10 percent) for the 1986 cohort than for the 1982 cohort and the probability of being out of the labour force (NLF) was lower for the 1986 and 1990 cohorts than for the 1982 cohort, lower by 13 and 19 percent, respectively.

4.2 Second Interview

Studying the probabilities of being in various labour-force states at the second as opposed to the first interview permits not only "better" instruments for mobility but also a "better" or a more complete set of variables to control for individual heterogeneity. In particular, we can now use labour force status at the first interview to control for labour force status at the second interview. As one might expect, despite the three-year gap in time between the first and second interviews, there is strong persistence in these variables. We also use marital status variables, self-employment and tenure, at the time of the first interview, as controls.

Table 3 reports multinomial logit results for the probability of being in various labour force states at the second interview. Even with the expanded set of control variables (in particular, labour force status at the first interview) and a better set of mobility indicators (mobility between region prior to attending university and the first interview), the mobility effects in Table 3 look much like those in Table 2. Once again, all statistically significant coefficients are positive. And most of these are for young people who do not move. For example, Table 3 indicates that the coefficient for those who resided in the Maritimes prior to attending university and at the first

interview (MAR-MAR) is 0.968 in the PTINVOL column. Using the multinomial logit model one can calculate that these individuals were 18.1 percent more likely to be in the part-time-involuntary group than those who resided in Ontario at these dates.[4] This number is shown in the ONT column of the next section of Table 3. While it is of some interest to know the effects of mobility relative to Ontario stayers it is probably more interesting to examine the effects of mobility on labour force status, *relative to the stayers for each province or region*. The next row of Table 3 shows that Maritimers who moved to Quebec were 0.6 percent more likely to be in the PTINVOL group that Ontario stayers. By subtracting the Maritime stayer row from the other three Maritime rows one obtains the effects for movers from the Maritimes relative to those who stayed in the Maritimes. For the Maritimes and the other five regions these effects are shown on the "HOME" columns of the last section of Table 3. From this vantage point we can see that Maritimers who moved experienced significant reductions in the probability of being part-time-involuntary (17 to 19 percent depending on region) and being unemployed (11 to 12 percent depending on region). Similar effects hold for the PTINVOL and UNEMP groups who migrated from other regions. Migrants from the Maritimes are slightly more likely to be in the PTVOL group than Maritime stayers; the opposite is true for the other regions, except Ontario where the labour status at the second interview is the same for movers and stayers. As we noted in our discussion of Table 2 those who resided in Ontario at all dates prior to the second interview were more likely to hold full-time jobs than those in other regions or provinces.

As we suggested above one cannot properly interpret the mobility results of Table 3 without paying careful attention to the control variables in the model. Individual heterogeneity is important in most microdata sets and we can see another illustration of this general point here. Labour force state at the first interview is strongly related to labour force state at the second interview even controlling for age, sex, mobility, field of study, cohort and other variables. For example, one can use the results in Table 3 to calculate that the probability of being in the PTVOL category at the second interview is 4 percent higher if the person was in this category at the first interview, 6 percent higher if the person was in the PTINVOL category at the first interview, 7 percent higher if the person was unemployed at the first interview and 3 percent

[4] As we observed in our discussion of Table 2 strictly speaking the omitted category comprises all those who were outside the seventeen categories listed in Table 3 (MAR-MAR, MAR-QUE, and so on). Of these omitted categories ONT-ONT is the dominant one and we will talk as if were the *only* omitted category.

higher if the person was not in the labour force at the first interview. Similar results hold for the other labour force states at the second interview—those who are not full-time workers at the first interview are more likely not to be full-time workers at the second interview.

Table 3 **Multinomial Logit Results for the Probability of Being in Various Labour Force States at the Second Interview**

	Part-time Voluntary		*Part-time Involuntary*		*Unemployed*		*Not in the Labour Force*	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**-4.804**	0.557	**-5.737**	0.962	**-4.338**	0.546	**-4.707**	0.641
AGE	0.024	0.020	0.004	0.034	**0.056**	0.020	0.036	0.023
FEMALE	**1.349**	0.111	**1.182**	0.180	0.088	0.084	**1.428**	0.129
Labour Force Status/Self Employment/Tenure; Full-time is Ommitted								
PTVOL1	**1.789**	0.162	**1.799**	0.268	**0.690**	0.246	**1.209**	0.222
PTINVOL1	**1.523**	0.136	**2.127**	0.176	**0.402**	0.188	0.426	0.218
UNEMP1	**0.960**	0.142	**1.195**	0.214	**1.160**	0.110	**0.770**	0.160
NLF1	**1.482**	0.197	0.649	0.481	**0.728**	0.243	**2.286**	0.172
SELF1	0.181	0.188	-0.043	0.367	-0.325	0.209	0.002	0.243
TENURE1	-0.014	0.029	-0.012	0.047	**-0.202**	0.043	**-0.149**	0.046
Mother and Father's Education; Omitted is everthing but University								
DADUNIV	0.118	0.102	-0.195	0.184	**0.213**	0.095	0.199	0.117
MOMUNIV	-0.037	0.126	-0.147	0.226	0.011	0.119	**-0.478**	0.164
Marital Status and Number of Children; Ommited is Single, No Children								
SGLPAR1	-0.929	0.732	0.269	0.547	0.232	0.364	0.551	0.436
MARPAR1	**1.252**	0.125	0.157	0.232	-0.028	0.146	**1.198**	0.145
WSDPAR1	-0.541	0.743	-0.591	1.042	-0.016	0.548	0.401	0.624
MARNC1	**0.810**	0.094	-0.118	0.164	-0.182	0.099	**0.890**	0.108
WSDNC1	**0.812**	0.360	**1.063**	0.492	-0.060	0.435	0.387	0.488
Field of Study; Fine Arts and Hummanities Comprimise the Ommitted Category								
ALLED	-0.068	0.137	0.002	0.209	-0.371	0.144	**-0.461**	0.160
COMMER	**-1.184**	0.214	**-0.988**	0.310	**-0.583**	0.157	**-0.576**	0.190
ECON	**-0.958**	0.409	-0.328	0.493	-0.061	0.236	**-1.390**	0.532
OTHSSC	**-0.361**	0.157	-0.396	0.245	-0.122	0.144	-0.226	0.165
AGBIOS	**-0.687**	0.207	-0.398	0.310	-0.161	0.168	-0.072	0.188
OTHHEA	0.014	0.138	**-0.821**	0.260	**-0.922**	0.161	**-0.892**	0.179
ENGCSC	**-1.335**	0.244	**-1.802**	0.490	**-0.788**	0.162	**-0.894**	0.228
MATHPH	**-0.876**	0.298	**-1.776**	0.734	0.012	0.190	**-0.759**	0.298
Cohort Dummies; 1982 is Ommitted								
COH86	**-0.220**	0.099	0.109	0.179	**0.341**	0.097	**-0.632**	0.114
COH90	**-0.388**	0.106	**0.401**	0.175	0.045	0.108	**-0.573**	0.118

higher if the person was not in the labour force at the first interview. Similar results hold for the other labour force states at the second interview—those who are not full-time workers at the first interview are more likely not to be full-time workers at the second interview.

Table 3 **Multinomial Logit Results for the Probability of Being in Various Labour Force States at the Second Interview**

	Part-time Voluntary		*Part-time Involuntary*		*Unemployed*		*Not in the Labour Force*	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**-4.804**	0.557	**-5.737**	0.962	**-4.338**	0.546	**-4.707**	0.641
AGE	0.024	0.020	0.004	0.034	**0.056**	0.020	0.036	0.023
FEMALE	**1.349**	0.111	**1.182**	0.180	0.088	0.084	**1.428**	0.129
Labour Force Status/Self Employment/Tenure; Full-time is Ommitted								
PTVOL1	**1.789**	0.162	**1.799**	0.268	**0.690**	0.246	**1.209**	0.222
PTINVOL1	**1.523**	0.136	**2.127**	0.176	**0.402**	0.188	0.426	0.218
UNEMP1	**0.960**	0.142	**1.195**	0.214	**1.160**	0.110	**0.770**	0.160
NLF1	**1.482**	0.197	0.649	0.481	**0.728**	0.243	**2.286**	0.172
SELF1	0.181	0.188	-0.043	0.367	-0.325	0.209	0.002	0.243
TENURE1	-0.014	0.029	-0.012	0.047	**-0.202**	0.043	**-0.149**	0.046
Mother and Father's Education; Omitted is everthing but University								
DADUNIV	0.118	0.102	-0.195	0.184	**0.213**	0.095	0.199	0.117
MOMUNIV	-0.037	0.126	-0.147	0.226	0.011	0.119	**-0.478**	0.164
Marital Status and Number of Children; Ommited is Single, No Children								
SGLPAR1	-0.929	0.732	0.269	0.547	0.232	0.364	0.551	0.436
MARPAR1	**1.252**	0.125	0.157	0.232	-0.028	0.146	**1.198**	0.145
WSDPAR1	-0.541	0.743	-0.591	1.042	-0.016	0.548	0.401	0.624
MARNC1	**0.810**	0.094	-0.118	0.164	-0.182	0.099	**0.890**	0.108
WSDNC1	**0.812**	0.360	**1.063**	0.492	-0.060	0.435	0.387	0.488
Field of Study; Fine Arts and Hummanities Comprimise the Ommitted Category								
ALLED	-0.068	0.137	0.002	0.209	-0.371	0.144	**-0.461**	0.160
COMMER	**-1.184**	0.214	**-0.988**	0.310	**-0.583**	0.157	**-0.576**	0.190
ECON	**-0.958**	0.409	-0.328	0.493	-0.061	0.236	**-1.390**	0.532
OTHSSC	**-0.361**	0.157	-0.396	0.245	-0.122	0.144	-0.226	0.165
AGBIOS	**-0.687**	0.207	-0.398	0.310	-0.161	0.168	-0.072	0.188
OTHHEA	0.014	0.138	**-0.821**	0.260	**-0.922**	0.161	**-0.892**	0.179
ENGCSC	**-1.335**	0.244	**-1.802**	0.490	**-0.788**	0.162	**-0.894**	0.228
MATHPH	**-0.876**	0.298	**-1.776**	0.734	0.012	0.190	**-0.759**	0.298
Cohort Dummies; 1982 is Ommitted								
COH86	**-0.220**	0.099	0.109	0.179	**0.341**	0.097	**-0.632**	0.114
COH90	**-0.388**	0.106	**0.401**	0.175	0.045	0.108	**-0.573**	0.118

Table 3 (continued)

Variable	*Part-time Voluntary* COEFF	STD ERR	*Part-time Involuntary* COEFF	STD ERR	*Unemployed* COEFF	STD ERR	*Not in the Labour Force* COEFF	STD ERR
Dummy Variable for Certain Moves between Pre-University and First Interview								
MAR-MAR	-0.157	0.148	**0.968**	0.267	**0.664**	0.121	0.106	0.145
MAR-QUE	-0.287	0.756	1.542	0.784	0.149	0.615	0.306	0.628
MAR-ONT	0.073	0.363	-0.456	1.032	0.346	0.293	**0.636**	0.304
MAR-AL	-0.696	0.735	0.494	1.046	0.650	0.408	-0.295	0.613
QUE-QUE	0.312	0.134	**1.099**	0.266	**0.422**	0.125	**-0.325**	0.160
QUE-ONT	0.525	0.412	1.023	0.757	-0.078	0.431	0.157	0.451
ONT-MAR	-0.435	0.771	**1.856**	0.678	0.192	0.615	-0.114	0.755
ONT-QUE	0.550	0.629	**2.064**	0.777	**1.095**	0.457	0.164	0.658
ONT-PRA	0.148	0.768	1.590	1.064	0.718	0.751	**1.160**	0.546
ONT-AL	0.783	0.576	1.485	1.060	0.821	0.534	0.201	0.679
PRA-ONT	0.658	0.446	0.587	1.043	0.338	0.474	0.366	0.519
PRA-PRA	**0.453**	0.143	**1.218**	0.277	0.178	0.152	-0.128	0.174
PRA-AL	-0.088	0.411	**1.184**	0.563	0.029	0.400	0.245	0.374
PRA-BC	0.632	0.472	**1.422**	0.771	0.359	0.530	-0.250	0.752
AL-PRA	0.052	0.749	**2.490**	0.611	0.028	0.738	0.170	0.757
AL-AL	**0.493**	0.146	**0.793**	0.309	0.235	0.147	-0.045	0.178
BC-BC	**0.488**	0.168	**0.756**	0.342	0.067	0.180	0.131	0.194
	Percentage Change in Probabilities Relative to:							
	ONT	HOME	ONT	HOME	ONT	HOME	ONT	HOME
MAR-MAR	-3.3	0.0	18.1	0.0	11.9	0.0	1.3	0.0
MAR-QUE	-0.1	3.2	0.6	-17.4	0.1	-11.8	0.1	-1.2
MAR-ONT	0.1	3.4	-1.0	-19.0	0.6	-11.2	1.2	-0.1
MAR-AL	-0.6	2.8	0.4	-17.7	0.5	-11.4	-0.2	-1.5
QUE-QUE	5.3	0.0	21.3	0.0	7.4	0.0	-6.1	0.0
QUE-ONT	0.6	-4.7	1.2	-20.0	-0.1	-7.5	0.2	6.3
ONT-MAR	-0.2	-0.2	0.7	0.7	0.1	0.1	-0.1	-0.1
ONT-QUE	0.2	0.2	0.8	0.8	0.4	0.4	0.0	0.0
ONT-PRA	0.0	0.0	0.4	0.4	0.2	0.2	0.3	0.3
ONT-AL	0.3	0.3	0.6	0.6	0.3	0.3	0.1	0.1
PRA-ONT	0.4	-4.8	0.4	-14.9	0.2	-1.6	0.2	2.1
PRA-PRA	5.2	0.0	15.3	0.0	1.8	0.0	-1.8	0.0
PRA-AL	-0.2	-5.4	1.8	-13.5	0.0	-1.8	0.3	2.2
PRA-BC	0.3	-4.9	0.7	-14.6	0.2	-1.7	-0.2	1.7
AL-PRA	0.0	-5.4	0.9	-8.2	0.0	-2.4	0.1	0.9
AL-AL	5.4	0.0	9.1	0.0	2.4	0.0	-0.8	0.0
BC-BC	3.3	0.0	5.2	0.0	0.3	0.0	0.7	0.0

Note: Shaded cells are significant at the 5% level.

Age effects are very different between Tables 2 and 3. Age has no statistically significant effect except to *raise* the probability of being unemployed. Being female raises the probability of PTVOL by 92 percent, PTINVOL by 77 percent, UNEMP by 1 percent and NLF by 101 percent. Parents' education has some effect on labour force status at the second interview. DADUNIV

raises the probability of being unemployed by 5 percent and MOMUNIV lowers the probability of NLF by 6 percent.

We included five (first-interview) marital-status-children variables (single parent, SGLPAR1, married parent, MARPAR1, widowed-separated-divorced parent, WSDPAR1, married no children, MARNC1 and widowed-separated-divorced, no children, WSDNC1; the omitted category was single, no children, SGLNC1). Being married significantly raised the probability of PTVOL—12 percent for parents and 23 percent for those with no children. The numbers for not in the labour force were virtually the same—11 and 25 percent, respectively. People who were widowed-separated-divorced were more likely to work part-time but the effect we measured on the probabilities was not quantitatively important (about 1 percent).

Self-employment status at the first interview (SELF1) is not closely related to labour force status at the second interview. There is weak evidence that being self-employed raises the probability of PTVOL and NLF and lowers the probability of PTINVOL and UNEMP. As one might expect longer job tenure at the first interview lowers the probability of UNEMP and NLF at the second interview. As in Table 2, the field of study results in Table 3 show that those in the fine arts and humanities field (the omitted category) were less likely to be working full-time at the second interview. Finally, there are quite strong cohort effects in Table 3. Those in the 1986 and 1990 cohorts were about 10 percent less likely to be in the PTVOL group and about 20 percent less likely to be in the NLF group, than their counterparts in the 1982 cohort. And the 1986 and 1990 cohorts were about 10 percent more likely to be unemployed or to hold part-time employment positions when they would have preferred full-time positions.[5]

We now turn our attention to an analysis of earnings at the first and second interviews. To the greatest extent possible we use the same sets of independent variables to study earnings as we used to study labour force status.

---

[5] **At this point it may be useful to suggest where further work could take this section of our analysis.** First of all, the voluntary-involuntary partitioning of part-time workers seems useful. The part-time involuntary group in fact look much like the unemployed group and one could imagine another iteration of these results in which these two groups were combined. A second point, and this was apparent in our earlier discussion of Table 1, is that one should perhaps estimate these model separately for men and women. Their behaviour is very different.

Table 3 (continued)

Variable	*Part-time Voluntary* COEFF	STD ERR	*Part-time Involuntary* COEFF	STD ERR	*Unemployed* COEFF	STD ERR	*Not in the Labour Force* COEFF	STD ERR
Dummy Variable for Certain Moves between Pre-University and First Interview								
MAR-MAR	-0.157	0.148	**0.968**	0.267	**0.664**	0.121	0.106	0.145
MAR-QUE	-0.287	0.756	1.542	0.784	0.149	0.615	0.306	0.628
MAR-ONT	0.073	0.363	-0.456	1.032	0.346	0.293	**0.636**	0.304
MAR-AL	-0.696	0.735	0.494	1.046	0.650	0.408	-0.295	0.613
QUE-QUE	0.312	0.134	**1.099**	0.266	**0.422**	0.125	**-0.325**	0.160
QUE-ONT	0.525	0.412	1.023	0.757	-0.078	0.431	0.157	0.451
ONT-MAR	-0.435	0.771	**1.856**	0.678	0.192	0.615	-0.114	0.755
ONT-QUE	0.550	0.629	**2.064**	0.777	**1.095**	0.457	0.164	0.658
ONT-PRA	0.148	0.768	1.590	1.064	0.718	0.751	**1.160**	0.546
ONT-AL	0.783	0.576	1.485	1.060	0.821	0.534	0.201	0.679
PRA-ONT	0.658	0.446	0.587	1.043	0.338	0.474	0.366	0.519
PRA-PRA	**0.453**	0.143	**1.218**	0.277	0.178	0.152	-0.128	0.174
PRA-AL	-0.088	0.411	**1.184**	0.563	0.029	0.400	0.245	0.374
PRA-BC	0.632	0.472	**1.422**	0.771	0.359	0.530	-0.250	0.752
AL-PRA	0.052	0.749	**2.490**	0.611	0.028	0.738	0.170	0.757
AL-AL	**0.493**	0.146	**0.793**	0.309	0.235	0.147	-0.045	0.178
BC-BC	**0.488**	0.168	**0.756**	0.342	0.067	0.180	0.131	0.194
	Percentage Change in Probabilities Relative to:							
	ONT	HOME	ONT	HOME	ONT	HOME	ONT	HOME
MAR-MAR	-3.3	0.0	18.1	0.0	11.9	0.0	1.3	0.0
MAR-QUE	-0.1	3.2	0.6	-17.4	0.1	-11.8	0.1	-1.2
MAR-ONT	0.1	3.4	-1.0	-19.0	0.6	-11.2	1.2	-0.1
MAR-AL	-0.6	2.8	0.4	-17.7	0.5	-11.4	-0.2	-1.5
QUE-QUE	5.3	0.0	21.3	0.0	7.4	0.0	-6.1	0.0
QUE-ONT	0.6	-4.7	1.2	-20.0	-0.1	-7.5	0.2	6.3
ONT-MAR	-0.2	-0.2	0.7	0.7	0.1	0.1	-0.1	-0.1
ONT-QUE	0.2	0.2	0.8	0.8	0.4	0.4	0.0	0.0
ONT-PRA	0.0	0.0	0.4	0.4	0.2	0.2	0.3	0.3
ONT-AL	0.3	0.3	0.6	0.6	0.3	0.3	0.1	0.1
PRA-ONT	0.4	-4.8	0.4	-14.9	0.2	-1.6	0.2	2.1
PRA-PRA	5.2	0.0	15.3	0.0	1.8	0.0	-1.8	0.0
PRA-AL	-0.2	-5.4	1.8	-13.5	0.0	-1.8	0.3	2.2
PRA-BC	0.3	-4.9	0.7	-14.6	0.2	-1.7	-0.2	1.7
AL-PRA	0.0	-5.4	0.9	-8.2	0.0	-2.4	0.1	0.9
AL-AL	5.4	0.0	9.1	0.0	2.4	0.0	-0.8	0.0
BC-BC	3.3	0.0	5.2	0.0	0.3	0.0	0.7	0.0

Note: Shaded cells are significant at the 5% level.

Age effects are very different between Tables 2 and 3. Age has no statistically significant effect except to *raise* the probability of being unemployed. Being female raises the probability of PTVOL by 92 percent, PTINVOL by 77 percent, UNEMP by 1 percent and NLF by 101 percent. Parents' education has some effect on labour force status at the second interview. DADUNIV

raises the probability of being unemployed by 5 percent and MOMUNIV lowers the probability of NLF by 6 percent.

We included five (first-interview) marital-status-children variables (single parent, SGLPAR1, married parent, MARPAR1, widowed-separated-divorced parent, WSDPAR1, married no children, MARNC1 and widowed-separated-divorced, no children, WSDNC1; the omitted category was single, no children, SGLNC1). Being married significantly raised the probability of PTVOL—12 percent for parents and 23 percent for those with no children. The numbers for not in the labour force were virtually the same—11 and 25 percent, respectively. People who were widowed-separated-divorced were more likely to work part-time but the effect we measured on the probabilities was not quantitatively important (about 1 percent).

Self-employment status at the first interview (SELF1) is not closely related to labour force status at the second interview. There is weak evidence that being self-employed raises the probability of PTVOL and NLF and lowers the probability of PTINVOL and UNEMP. As one might expect longer job tenure at the first interview lowers the probability of UNEMP and NLF at the second interview. As in Table 2, the field of study results in Table 3 show that those in the fine arts and humanities field (the omitted category) were less likely to be working full-time at the second interview. Finally, there are quite strong cohort effects in Table 3. Those in the 1986 and 1990 cohorts were about 10 percent less likely to be in the PTVOL group and about 20 percent less likely to be in the NLF group, than their counterparts in the 1982 cohort. And the 1986 and 1990 cohorts were about 10 percent more likely to be unemployed or to hold part-time employment positions when they would have preferred full-time positions.[5]

We now turn our attention to an analysis of earnings at the first and second interviews. To the greatest extent possible we use the same sets of independent variables to study earnings as we used to study labour force status.

5 At this point it may be useful to suggest where further work could take this section of our analysis. First of all, the voluntary-involuntary partitioning of part-time workers seems useful. The part-time involuntary group in fact look much like the unemployed group and one could imagine another iteration of these results in which these two groups were combined. A second point, and this was apparent in our earlier discussion of Table 1, is that one should perhaps estimate these model separately for men and women. Their behaviour is very different.

5. The Effects of Mobility on Earnings

The response to almost every question one might wish to answer with microdata is clouded by individual heterogeneity. As we have seen, those individuals who choose to move vary systematically from those who do not move and it is very difficult indeed to identify accurately the effects of mobility on earnings. Some people who move will be on a high and steep earnings trajectory—word has spread that they are very capable and the employer may be moving them to head office or a new employer may have made an attractive offer to work elsewhere. At the same time, workers who have found themselves in a poor employer-employee match may be quite willing to move elsewhere even with a cut in earnings. To repeat, disentangling the effect of mobility on earnings from the effect of earnings on mobility is difficult. This section (and the next) represent preliminary steps in which we presume earnings (or the growth in earnings between two points in time) is the dependent variable.

Thinking along these lines it seems quite possible that the individual heterogeneity problem is more acute in the sample of movers than in the sample of stayers. To address this problem we have tried to assemble techniques and control variables that maximize the useful information in the coefficients on regional mobility. First, we use median regression that we expect is less prone to sensitivity to outliers than ordinary least squares might be.[6] Second, we study earnings at the second interview conditional on earnings at the first interview. As one might expect earnings at the two interviews are very highly correlated. If one does not control for differences in earnings ability and more able (or less able) people dominate the sample of movers the coefficients on the migration variables are likely to be misleading.

5.1 First Interview

In this section we study the members of each cohort who had positive earnings at the first interview. As in previous sections we use mobility between the person's location prior to

[6] Let Y represent the dependent variable and X a set of independent variables. If we use ordinary least squares to estimate the linear relationship $Y_i = X_i b + e_i$, $i = 1,...,n$, then we pick the estimates of b to minimise the sum of $(Y_i - X_i b)^2$. In a median regression b is chosen to minimise the sum of absolute deviations. Quite often microdata sets contain Y values that are outliers—observations that are a long way from the regression line; by construction OLS estimates of b are prone to be sensitive to outliers; median regression or least absolute deviation (LAD) estimates of b are likely to be less sensitive to outliers. In much applied work in economics researchers now use LAD estimates in place of OLS estimates.

attending university and university as an instrument for mobility up to the first interview. And we employ age, parents' education variables, field of study and cohort dummies as additional control variables.

Table 4 contains median regression results for earnings (in 1995 dollars) at the first interview. The average least absolute deviation for men is about $9,000 and $7,500 for women, which is about 30 percent of median earnings for each group.

Table 4 **Median Regression Results for Earnings at the First Interview**

	Males		**Females**	
Dependant variable	Earn1		Earn1	
Num of Obs.	6087		6095	
LAD	54549045		45774423	
Variable	COEFF	STD ERR	COEFF	STD ERR
CONST	**11590**	2180	**7404**	1854
AGE	**611**	80	**710**	69
	Mother's Education and Father's Education; Ommited is Primary			
DADSECON	351	403	262	312
DADCOLL	394	689	628	524
DADUNIV	838	433	-289	385
MOMSECON	459	391	157	326
MOMCOLL	205	481	-36	391
MOMUNIV	473	528	747	467
	Field of Study; Fine Arts and Hummanities Comprise the Ommited Category			
ALLED	**7313**	776	**8125**	525
COMMER	**6343**	792	**6322**	601
ECON	**5538**	1103	3253	1962
OTHSSC	**3940**	891	**2994**	646
AGBIOS	**3453**	957	**4111**	691
OTHHEA	**13120**	871	**12703**	518
ENGCSC	**12434**	738	**12455**	697
MATHPH	**10445**	882	**8845**	943
	Cohort Dummies; 1982 is Ommited			
COH86	**-2266**	358	**-1675**	321
COH90	**-1893**	372	-483	333

attending university and university as an instrument for mobility up to the first interview. And we employ age, parents' education variables, field of study and cohort dummies as additional control variables.

Table 4 contains median regression results for earnings (in 1995 dollars) at the first interview. The average least absolute deviation for men is about $9,000 and $7,500 for women, which is about 30 percent of median earnings for each group.

Table 4 **Median Regression Results for Earnings at the First Interview**

	Males		**Females**	
Dependant variable	Earn1		Earn1	
Num of Obs.	6087		6095	
LAD	54549045		45774423	
Variable	COEFF	STD ERR	COEFF	STD ERR
CONST	11590	2180	7404	1854
AGE	611	80	710	69
	Mother's Education and Father's Education; Ommited is Primary			
DADSECON	351	403	262	312
DADCOLL	394	689	628	524
DADUNIV	838	433	-289	385
MOMSECON	459	391	157	326
MOMCOLL	205	481	-36	391
MOMUNIV	473	528	747	467
	Field of Study; Fine Arts and Hummanities Comprise the Ommited Category			
ALLED	7313	776	8125	525
COMMER	6343	792	6322	601
ECON	5538	1103	3253	1962
OTHSSC	3940	891	2994	646
AGBIOS	3453	957	4111	691
OTHHEA	13120	871	12703	518
ENGCSC	12434	738	12455	697
MATHPH	10445	882	8845	943
	Cohort Dummies; 1982 is Ommited			
COH86	-2266	358	-1675	321
COH90	-1893	372	-483	333

Table 4 (continued)

	Males			Females		
Dependant Variable	Earn1			Earn1		
Variable	COEFF	STD ERR	EARN PREM	COEFF	STD ERR	EARN PREM
Dummy Variables for all Possible Moves between Pre-University and University						
MAR-MAR	**-2709**	461	0	**-3652**	396	0
MAR-QUE	-1926	6076	783	-2914	2171	738
MAR-ONT	1475	2358	4184	**-9603**	3211	-5951
MAR-PRA	**31609**	2006	34317	**8413**	1879	12065
MAR-AL	3164	5367	5873	-2669	2401	983
MAR-BC	4739	2748	7448	**-9572**	1603	-5920
QUE-MAR	-173	2489	2460	**-4300**	1349	-695
QUE-QUE	**-2633**	415	0	**-3604**	383	0
QUE-ONT	967	1771	3600	997	1770	4601
QUE-PRA	1992	4736	4624	-453	2403	3151
QUE-AL	NA		2633	NA		3604
QUE-BC	NA		2633	138	2155	3743
ONT-MAR	**-3242**	1608	-3242	-2708	1492	-2708
ONT-QUE	3492	4706	3492	-2259	1696	-2259
ONT-ONT	OMITTED		0	OMITTED		0
ONT-PRA	245	1525	245	**-5393**	1931	-5393
ONT-AL	2730	2387	2730	-4148	2159	-4148
ONT-BC	2690	2899	2690	-2841	2293	-2841
PRA-MAR	2626	5453	4589	-7817	5191	-6305
PRA-QUE	**-11678**	2765	-9715	NA		1512
PRA-ONT	-4938	3837	-2975	1472	2484	2985
PRA-PRA	**-1963**	496	0	**-1512**	391	0
PRA-AL	-579	1770	1383	1247	2028	2759
PRA-BC	3895	5420	5857	-121	6016	1392
AL-MAR	1122	1898	2291	-1840	2779	-535
AL-QUE	-2490	3343	-1321	NA		1305
AL-ONT	3319	3130	4488	-765	1945	539
AL-PRA	1781	2269	2950	191	1180	1495
AL-AL	-1169	495	0	**-1305**	429	0
AL-BC	-4886	3509	-3717	-1786	1867	-481
BC-MAR	-2708	4500	-2630	-2559	5247	-168
BC-QUE	NA		78	NA		2391
BC-ONT	-1934	1670	-1857	-2029	3235	362
BC-PRA	-3055	2111	-2977	-6682	3706	-4292
BC-AL	-1964	1398	-1886	-1001	1221	1389
BC-BC	-78	624	0	**-2391**	731	0

Note: LAD is the sum of absolute deviations. Shaded cells are significant at the 5% level. NA means not available.

The estimates of the effect of mobility on earnings in Table 4 must be interpreted carefully. The omitted category comprises those who resided in Ontario prior to attending university and at university. Very few of the estimates are statistically significant different from Ontario stayers.

Table 4 (continued)

	Males			Females		
Dependant Variable	Earn1			Earn1		
Variable	COEFF	STD ERR	EARN PREM	COEFF	STD ERR	EARN PREM
Dummy Variables for all Possible Moves between Pre-University and University						
MAR-MAR	**-2709**	461	0	**-3652**	396	0
MAR-QUE	-1926	6076	783	-2914	2171	738
MAR-ONT	1475	2358	4184	**-9603**	3211	-5951
MAR-PRA	**31609**	2006	34317	**8413**	1879	12065
MAR-AL	3164	5367	5873	-2669	2401	983
MAR-BC	4739	2748	7448	**-9572**	1603	-5920
QUE-MAR	-173	2489	2460	**-4300**	1349	-695
QUE-QUE	**-2633**	415	0	**-3604**	383	0
QUE-ONT	967	1771	3600	997	1770	4601
QUE-PRA	1992	4736	4624	-453	2403	3151
QUE-AL	NA		2633	NA		3604
QUE-BC	NA		2633	138	2155	3743
ONT-MAR	**-3242**	1608	-3242	-2708	1492	-2708
ONT-QUE	3492	4706	3492	-2259	1696	-2259
ONT-ONT	OMITTED		0	OMITTED		0
ONT-PRA	245	1525	245	**-5393**	1931	-5393
ONT-AL	2730	2387	2730	-4148	2159	-4148
ONT-BC	2690	2899	2690	-2841	2293	-2841
PRA-MAR	2626	5453	4589	-7817	5191	-6305
PRA-QUE	**-11678**	2765	-9715	NA		1512
PRA-ONT	-4938	3837	-2975	1472	2484	2985
PRA-PRA	**-1963**	496	0	**-1512**	391	0
PRA-AL	-579	1770	1383	1247	2028	2759
PRA-BC	3895	5420	5857	-121	6016	1392
AL-MAR	1122	1898	2291	-1840	2779	-535
AL-QUE	-2490	3343	-1321	NA		1305
AL-ONT	3319	3130	4488	-765	1945	539
AL-PRA	1781	2269	2950	191	1180	1495
AL-AL	-1169	495	0	**-1305**	429	0
AL-BC	-4886	3509	-3717	-1786	1867	-481
BC-MAR	-2708	4500	-2630	-2559	5247	-168
BC-QUE	NA		78	NA		2391
BC-ONT	-1934	1670	-1857	-2029	3235	362
BC-PRA	-3055	2111	-2977	-6682	3706	-4292
BC-AL	-1964	1398	-1886	-1001	1221	1389
BC-BC	-78	624	0	**-2391**	731	0

Note: LAD is the sum of absolute deviations. Shaded cells are significant at the 5% level. NA means not available.

The estimates of the effect of mobility on earnings in Table 4 must be interpreted carefully. The omitted category comprises those who resided in Ontario prior to attending university and at university. Very few of the estimates are statistically significant different from Ontario stayers.

For men, Maritime stayers earned about $2,700 less than Ontario stayers; this number is $2,600 less for Quebec stayers, $2,000 less for Prairie stayers (Manitoba and Saskatchewan), $1,200 less for Alberta stayers and $100 less for BC stayers. These results strike us as sensible. But the regression results show that those who moved from the Maritimes to the Prairies earned $31,600 more than Ontario stayers and those that moved between the Prairies and Quebec earned about $11,700 less than Ontario stayers. These last two estimates are determined by so few observations that the numbers cannot be viewed as credible estimates of the median earnings differential accruing to a man who moved between these jurisdictions. Most of the other numbers do seem plausible. For example, a Maritime stayer earned $2,700 less than an Ontario stayer. A Maritimer who moved to Quebec earned $1,900 less than an Ontario stayer. By subtraction then a Maritimer who moved to Quebec earned $800 more than a Maritime stayer. The further west a male Maritimer moved the higher his earnings gain. The same is true of Quebec movers relative to Quebec stayers. Ontario movers to the Maritimes earn significantly less than Ontario stayers. Other Ontario movers earn more than Ontario stayers. Manitoba and Saskatchewan movers who went to the Maritimes or who moved west did better than stayers in these provinces. Movers from these provinces to Ontario earned about $3,000 less than stayers in these provinces. Alberta movers to Quebec or BC earned less than Alberta stayers; other Alberta movers earned more. All BC movers earned less than BC stayers.

For women earnings differences are generally larger and more of the mobility coefficients differ significantly from the omitted category of Ontario stayer. Maritime movers to Quebec, Manitoba, Saskatchewan and Alberta earned more than Maritime stayers; movers to Ontario and BC earned less than Maritime stayers. Quebec women who moved to the Maritimes earned less than Quebec stayers; other Quebec movers earned more. All Ontario movers earned less than Ontario stayers. Prairie movers to the Maritimes earned less, all other Prairie movers earned more than stayers. Alberta women who moved to BC or the Maritimes earned less than Alberta stayers; all other movers earned more. BC women who moved to the Prairies or to the Maritimes earned less, other BC movers earned more than stayers.

We wish to emphasize again that while one can draw these inferences from Table 4 the mobility instruments are imperfect and the data sets for movers are thin. For men there is some evidence

that the further away a move is the larger the earnings differential. This result does not appear to hold for women.

It is important, once again, to say something about the coefficients on the other independent variables before leaving Table 4. As one would expect earnings rose significantly with age, about $600 per year for men and $700 per year for women. Given that there is a substantial literature on the positive correlation in earnings across generations for both women and men, and that earnings are positively correlated with education level, it is somewhat surprising that none of the parents' education variables is statistically significant. Since primary education is the omitted category one would expect positive coefficients, however, and ten of the twelve are positive. And if we ignore the two negative coefficients and MOMCOLL for men the coefficients are higher for higher levels of education. Earnings vary by field of study; for both women and men health fields are at the top and fine arts and humanities fields are at the bottom.

Finally, we note that earnings vary significantly across cohorts. For both women and men first interview earnings were lower for the 1986 and 1990 cohorts than the 1982 cohort. For men the earnings drop is statistically significant and over $2,000. For women, the numbers are -$1,700 for COH86 and -$500 for COH90.

5.2 Second Interview

We estimate two models. In one of these, second-interview earnings is regressed on first-interview earnings and the other independent variables used in the labour-force-state analysis in Section 4. In the other, the dependent variable is the difference between second- and first-interview earnings. The latter is the "fixed effect" model used in many econometric applications. The idea is that past values of the dependent variable are often an excellent control for individual heterogeneity, which, as we have observed, makes much empirical work so difficult. Differencing the dependent variable removes an individual fixed effect. A less restrictive functional form is to include lagged values of the dependent variable as regressors. Here the interpretation is very similar—past values of the dependent variable control for individual heterogeneity in ways that other regressors cannot. Another strength of the statistical models estimated in this subsection is our mobility instruments. If one were to use mobility between the first and second interviews as regressors one would run into the problem described above—

mobility between the first and second interviews and earnings at the second interview may be jointly determined and so one cannot regard this measure of mobility, that is, mobility between the first and second interviews as an *independent* determinant of earnings at the second interview. One has to use some instrument for mobility between the first and second interviews. Mobility between the location prior to attending university and location at the first interview is probably a more accurate general measure of mobility than mobility to university because, as we observed above, most of those who move are non-returners and most non-returners move first at the first interview. Hence this is the instrument we employ.

For these reasons, we believe the results in Table 5 comprise our most accurate estimates of the effects of mobility on earnings. We focus on the lagged earnings columns in Table 5 (the first and third columns) and proceed as we did in discussing Table 4.

For men, Maritime movers earn more than Maritime stayers; the gains range from a high of about $2,400 (1995 dollars) for those who went to Ontario to a low of $550 for those who went to Quebec. Quebec movers do better than Quebec stayers with the exception of those who move to the Maritimes. The latter experienced a median earnings loss of $1,150; at the other end of the spectrum movers to BC gain $5,180. Ontario residents prior to attending university who are observed to have moved to the Maritimes, Quebec, Manitoba or Saskatchewan at the first interview earned less than Ontario stayers. Ontario movers to Alberta gain about $1,230 and movers to BC gain $5,700. Movers from Manitoba and Saskatchewan to Quebec lose about $2,700; movers to the Maritimes gain about $2,900; movers to other regions lie in between these bounds. Movers from Alberta to Manitoba, Saskatchewan and BC earn about $2,000 less than stayers in Alberta; movers to Quebec earn about $3,800 more than Alberta stayers. Movers from BC to the Maritimes earn about $900 less than BC stayers. All other BC movers gain particularly those who move to Manitoba or Saskatchewan who gain about $4,000.

Maritime women who moved to Quebec earn $1,800 less than women who stayed in the Maritimes. Women who moved to Ontario from the Maritimes gain about $1,800. Quebec women who moved to Ontario gained $850; all other Quebec female movers lost relative to Quebec stayers. Ontario women who moved to the Maritimes gained about $800; all other Ontario movers did worse than Ontario stayers. All female movers from Manitoba and

Saskatchewan earned more than stayers with the greatest gain of $3,800 accruing to women who moved to BC. All female movers from Alberta did worse than stayers except for those who moved to BC (gain of $2,550). BC women who moved to Ontario, Manitoba or Saskatchewan gained; other female BC movers lost relative to BC stayers.

We cannot emphasize strongly enough that these measures of the effects on mobility on earnings mean nothing unless one understands what is being held constant, or controlled for, through the other regressors listed on the first page of Table 5. The most important regressor on this page is clearly earnings at the first interview. It is the best predictor of earnings at the second interview. Looking back at Table 4 we can see that age, parents' education, field of study and the cohort dummies help predict earnings at the first interview, and while they, in addition to the labour force and marital status variables would do a reasonable job of predicting earnings at the second interview, they cannot control for the huge degree of individual heterogeneity as well as the person's own earnings three years earlier. A consequence of the power of first-period earnings as a regressor is that many of the other control variables are much less significant (numerically smaller and less significant statistically) than they would be if first interview earnings were dropped as a regressor. Unlike Table 4, for example, age is not a significant regressor. Marital status does not matter for men; married women with or without children have lower median earnings than other women. Parents' education variables are generally insignificant as are labour force status, self-employment and tenure. The signs and magnitudes of these variables are sensible for the most part, however. Ignoring the coefficients on college education for parents, which are all over the map in size and sign, higher levels of parents' education are positively correlated with higher earnings for children. For men, being in the part-time-involuntary group at the first interview, given earnings at the first interview, raises earnings at the second interview by $1,100. Being out of the labour force at the first interview lowers earnings at the second interview by $1,300. For women, being in the part-time voluntary category at the first interview lowers earnings by $2,200; being out of the labour at the first interview lowers second-interview earnings by $4,200.

Table 5 **Median Regression Results for Earnings at the Second Interview**

	Males				Females			
Dependent variable	Earn2		Earn2 - Earn1		Earn2		Earn2 - Earn1	
Num of obs.	5549		5549		5304		5304	
LAD	47856828		49111041		37287739		38379538	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	14698	1820	10669	1897	9427	1525	7490	1558
EARN1	0.780	0.022	NA		0.766	0.021	NA	
AGE	-95	63	-177	69	90	59	-80	59
Marital Status and Number of Children; Omitted is Single, No Children								
SGLPAR1	-1823	1532	-2610	1175	-660	1325	754	1517
MARPAR1	832	449	232	439	-1252	493	-1553	549
WSDPAR1	1307	1969	-1403	2129	128	850	-266	979
MARNC1	533	280	240	305	-955	236	-982	245
WSDNC1	-1289	2985	-829	3115	-1145	1194	-462	1304
Mother's and Father's Education; Omitted is Primary								
DADSECON	248	314	115	320	183	282	330	287
DADCOLL	619	506	469	542	350	478	399	476
DADUNIV	494	374	194	383	788	318	992	344
MOMSECON	102	313	308	322	453	290	244	290
MOMCOLL	-23	423	15	443	4	331	-505	357
MOMUNIV	435	441	569	456	674	414	244	449
Labour Force Status/Self-Employment/Tenure; Omitted is Full Time								
PTVOL1	-559	1569	1907	2843	-2174	1132	897	1072
PTINVOL1	1089	1238	3405	1336	619	632	3097	822
UNEMP1	-821	1418	-837	1497	1146	1805	1857	1513
NLF1	-1321	2358	-5812	7282	-4238	3850	-2915	3963
SELF1	549	1115	-1815	1297	-315	1912	-781	1521
TENURE1	50	96	-214	84	-89	77	-240	81
Field of Study; Fine Arts and Hummanities Comprise the Omitted Category								
ALLED	298	597	-951	634	543	422	-942	420
COMMER	4448	630	3581	671	2895	494	1835	473
ECON	3049	1073	2270	975	982	1021	212	841
OTHSSC	1307	703	1098	722	315	434	65	446
AGBIOS	1599	771	789	810	-21	531	-559	543
OTHHEA	7456	795	4569	785	1838	459	-127	441
ENGCSC	4715	618	2530	615	4182	534	2077	513
MATHPH	3431	764	2098	799	4182	785	2114	773
Cohort Dummies; 1982 is Omitted								
COH86	-237	307	329	316	360	270	443	275
COH90	-727	305	-250	324	-322	253	-233	263

Table 5 **Median Regression Results for Earnings at the Second Interview**

	Males				Females			
Dependent variable	Earn2		Earn2 - Earn1		Earn2		Earn2 - Earn1	
Num of obs.	5549		5549		5304		5304	
LAD	47856828		49111041		37287739		38379538	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**14698**	1820	**10669**	1897	**9427**	1525	**7490**	1558
EARN1	**0.780**	0.022	NA		**0.766**	0.021	NA	
AGE	-95	63	**-177**	69	90	59	-80	59
Marital Status and Number of Children; Omitted is Single, No Children								
SGLPAR1	-1823	1532	**-2610**	1175	-660	1325	754	1517
MARPAR1	832	449	232	439	**-1252**	493	**-1553**	549
WSDPAR1	1307	1969	-1403	2129	128	850	-266	979
MARNC1	533	280	240	305	**-955**	236	**-982**	245
WSDNC1	-1289	2985	-829	3115	-1145	1194	-462	1304
Mother's and Father's Education; Omitted is Primary								
DADSECON	248	314	115	320	183	282	330	287
DADCOLL	619	506	469	542	350	478	399	476
DADUNIV	494	374	194	383	**788**	318	**992**	344
MOMSECON	102	313	308	322	453	290	244	290
MOMCOLL	-23	423	15	443	4	331	-505	357
MOMUNIV	435	441	569	456	674	414	244	449
Labour Force Status/Self-Employment/Tenure; Omitted is Full Time								
PTVOL1	-559	1569	1907	2843	-2174	1132	897	1072
PTINVOL1	1089	1238	**3405**	1336	619	632	**3097**	822
UNEMP1	-821	1418	-837	1497	1146	1805	1857	1513
NLF1	-1321	2358	-5812	7282	-4238	3850	-2915	3963
SELF1	549	1115	-1815	1297	-315	1912	-781	1521
TENURE1	50	96	**-214**	84	-89	77	**-240**	81
Field of Study; Fine Arts and Hummanities Comprise the Omitted Category								
ALLED	298	597	-951	634	543	422	**-942**	420
COMMER	**4448**	630	**3581**	671	**2895**	494	**1835**	473
ECON	**3049**	1073	**2270**	975	982	1021	212	841
OTHSSC	1307	703	1098	722	315	434	65	446
AGBIOS	**1599**	771	789	810	-21	531	-559	543
OTHHEA	**7456**	795	**4569**	785	**1838**	459	-127	441
ENGCSC	**4715**	618	**2530**	615	**4182**	534	**2077**	513
MATHPH	**3431**	764	**2098**	799	**4182**	785	**2114**	773
Cohort Dummies; 1982 is Omitted								
COH86	-237	307	329	316	360	270	443	275
COH90	**-727**	305	-250	324	-322	253	-233	263

Table 5 (continued)

	Males				Females			
	Earn2		Earn2 - Earn1		Earn2		Earn2 - Earn1	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
Dummy Variable for all Possible Moves between the First and Second Interviews								
MAR-MAR	**-2819**	407	-2072	425	**-2399**	322	-1747	330
MAR-QUE	-2267	1680	-2310	2325	**-4230**	1908	-1004	1669
MAR-ONT	-411	861	-1029	978	-591	664	-313	663
MAR-PRA	-1992	2995	-2976	2076	-3710	1559	-3961	1966
MAR-AL	-1954	1287	-1920	1339	-1273	922	-1162	856
MAR-BC	-558	5347	-1260	5566	-1856	1907	-2247	1478
QUE-MAR	-3333	2316	-2633	1920	-2773	3049	-1946	4839
QUE-QUE	**-2185**	404	**-1638**	409	-779	352	-390	353
QUE-ONT	57	950	-743	1122	70	1131	-1072	1092
QUE-PRA	2797	2886	**6107**	2994	-2518	1971	-3183	3111
QUE-AL	-1197	1611	-1068	1684	-1015	2734	-356	2874
QUE-BC	2996	8095	2576	2846	-1530	1508	918	1569
ONT-MAR	-813	2506	-453	2186	783	1132	1229	1326
ONT-QUE	-2382	1947	-2578	1326	-3584	1367	-2505	1111
ONT-ONT	OMITTED		OMITTED		OMITTED		OMITTED	
ONT-PRA	**-6611**	2285	**-4102**	1914	-3626	2783	-2037	1755
ONT-AL	1230	1991	-147	2081	-2349	1935	-1853	2033
ONT-BC	5692	5524	5217	5770	-473	1632	1543	2575
PRA-MAR	519	1912	-3026	4054	NA		NA	
PRA-QUE	-5071	2762	**-5036**	1760	NA		NA	
PRA-ONT	109	1069	-98	1227	-15	4373	-181	1309
PRA-PRA	**-2378**	437	**-1439**	454	-1743	367	-1383	393
PRA-AL	-554	830	-967	910	-1589	891	-1453	898
PRA-BC	-2442	1655	-3402	1361	2059	1525	2089	2530
AL-MAR	-1798	4288	-878	4474	-1897	2230	-1061	3502
AL-QUE	2993	3504	3922	3657	NA		NA	
AL-ONT	-947	1389	-41	1688	-2634	2565	-1858	1787
AL-PRA	-2870	3282	-192	3446	-2715	4732	-1855	1663
AL-AL	-844	444	-434	464	-1393	393	-1232	401
AL-BC	-2867	2963	-3477	2155	1148	2131	1614	1698
BC-MAR	-1717	2515	-2736	2618	-1190	1357	10	1441
BC-QUE	NA		NA		NA		NA	
BC-ONT	-277	1842	-892	1714	5795	4311	3394	3027
BC-PRA	3261	5278	2827	5210	1524	5444	NA	
BC-AL	941	1759	1247	2059	-3818	1899	-2521	1723
BC-BC	-774	637	-272	637	-374	545	-327	534

Table 5 (continued)

	Males				Females			
	Earn2		Earn2 - Earn1		Earn2		Earn2 - Earn1	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
Dummy Variable for all Possible Moves between the First and Second Interviews								
MAR-MAR	-2819	407	-2072	425	-2399	322	-1747	330
MAR-QUE	-2267	1680	-2310	2325	-4230	1908	-1004	1669
MAR-ONT	-411	861	-1029	978	-591	664	-313	663
MAR-PRA	-1992	2995	-2976	2076	-3710	1559	-3961	1966
MAR-AL	-1954	1287	-1920	1339	-1273	922	-1162	856
MAR-BC	-558	5347	-1260	5566	-1856	1907	-2247	1478
QUE-MAR	-3333	2316	-2633	1920	-2773	3049	-1946	4839
QUE-QUE	-2185	404	-1638	409	-779	352	-390	353
QUE-ONT	57	950	-743	1122	70	1131	-1072	1092
QUE-PRA	2797	2886	6107	2994	-2518	1971	-3183	3111
QUE-AL	-1197	1611	-1068	1684	-1015	2734	-356	2874
QUE-BC	2996	8095	2576	2846	-1530	1508	918	1569
ONT-MAR	-813	2506	-453	2186	783	1132	1229	1326
ONT-QUE	-2382	1947	-2578	1326	-3584	1367	-2505	1111
ONT-ONT	OMITTED		OMITTED		OMITTED		OMITTED	
ONT-PRA	-6611	2285	-4102	1914	-3626	2783	-2037	1755
ONT-AL	1230	1991	-147	2081	-2349	1935	-1853	2033
ONT-BC	5692	5524	5217	5770	-473	1632	1543	2575
PRA-MAR	519	1912	-3026	4054	NA		NA	
PRA-QUE	-5071	2762	-5036	1760	NA		NA	
PRA-ONT	109	1069	-98	1227	-15	4373	-181	1309
PRA-PRA	-2378	437	-1439	454	-1743	367	-1383	393
PRA-AL	-554	830	-967	910	-1589	891	-1453	898
PRA-BC	-2442	1655	-3402	1361	2059	1525	2089	2530
AL-MAR	-1798	4288	-878	4474	-1897	2230	-1061	3502
AL-QUE	2993	3504	3922	3657	NA		NA	
AL-ONT	-947	1389	-41	1688	-2634	2565	-1858	1787
AL-PRA	-2870	3282	-192	3446	-2715	4732	-1855	1663
AL-AL	-844	444	-434	464	-1393	393	-1232	401
AL-BC	-2867	2963	-3477	2155	1148	2131	1614	1698
BC-MAR	-1717	2515	-2736	2618	-1190	1357	10	1441
BC-QUE	NA		NA		NA		NA	
BC-ONT	-277	1842	-892	1714	5795	4311	3394	3027
BC-PRA	3261	5278	2827	5210	1524	5444	NA	
BC-AL	941	1759	1247	2059	-3818	1899	-2521	1723
BC-BC	-774	637	-272	637	-374	545	-327	534

Table 5 (continued)

	Males		Females	
	Earn2	Earn2 - Earn1	Earn2	Earn2 - Earn1
Variable	Earnings Premia			
MAR-MAR	0	0	0	0
MAR-QUE	551	-239	-1831	743
MAR-ONT	2407	1043	1808	1434
MAR-PRA	827	-904	-1311	-2214
MAR-AL	865	152	1126	585
MAR-BC	2260	812	543	-500
QUE-MAR	-1148	-996	-1994	-1556
QUE-QUE	0	0	0	0
QUE-ONT	2241	895	849	-682
QUE-PRA	4981	7745	-1739	-2792
QUE-AL	988	570	-236	34
QUE-BC	5181	4214	-751	1309
ONT-MAR	-813	-453	783	1229
ONT-QUE	-2382	-2578	-3584	-2505
ONT-ONT	0	0	0	0
ONT-PRA	-6611	-4102	-3626	-2037
ONT-AL	1230	-147	-2349	-1853
ONT-BC	5692	5217	-473	1543
PRA-MAR	2896	-1588	NA	NA
PRA-QUE	-2694	-3598	NA	NA
PRA-ONT	2487	1341	1729	1202
PRA-PRA	0	0	0	0
PRA-AL	1824	472	154	-69
PRA-BC	-64	-1963	3802	3472
AL-MAR	-953	-444	-504	172
AL-QUE	3837	4356	NA	NA
AL-ONT	-103	393	-1241	-626
AL-PRA	-2025	242	-1322	-623
AL-AL	0	0	0	0
AL-BC	-2023	-3043	2541	2846
BC-MAR	-943	-2463	-816	337
BC-QUE	NA	NA	NA	NA
BC-ONT	497	-619	6169	3721
BC-PRA	4035	3099	1898	NA
BC-AL	1716	1519	-3444	-2194
BC-BC	0	0	0	0

Note: LAD is the sum of absolute deviations. Shaded cells are significant at the 5% level. NA means not available.

Field of study coefficients are also less significant than they would be if first-interview earnings were dropped. It would appear that not only are earnings significantly lower in fine arts and humanities than in the other fields, particularly for men, but the rate of increase in earnings is lower in this field. Finally, we observe that cohort effects are quite different in Table 5 than

Table 4, again, largely because Table 5 uses first-interview earnings as a control variable. Thus whereas the 1986 and 1990 cohorts earn significantly less than the 1982 cohort at the first interview for both men and women, only the 1990 cohort dummy is negative and statistically significant in Table 5 for men and the 1986 cohort dummy is positive (but not significant) for women.

Most of the paper to this point has attempted to identify the effects of mobility on labour market outcomes—labour force status and earnings at the first and second interviews. The next section redresses the imbalance somewhat by turning this around and asking what effects labour market outcomes have on mobility.

6. The Effects of Labour Market Outcomes on Mobility

In this section we estimate the probabilities of moving to one of the six regions between the first and second interviews (the omitted category is not moving between these dates) as a function of age, sex, first-interview labour market outcomes, including earnings and labour force status, parents' education, marital status, field of study, cohort and location variables. Cells with no observations prevented us from using location at the first interview but we do include variables for location prior to attending university and at university. Table 6 records the results.

One might think that abnormally high earnings at the first interview would indicate that the person was doing well in the current job/location and that this would reduce the probability of moving between the first and second interviews. There may be something in this explanation for those who move to Ontario, which has a negative coefficient for EARN1 in Table 6, but the coefficients for the other five regions are positive and the one for the Maritimes is statistically significant. This means that those with abnormally high earnings in Quebec or Ontario at the first interview are *more* likely to move to the Maritimes between the first and second interviews.

There are also some puzzles in the results for the labour force status variables. Part-time jobs are often difficult to find and to keep. Our hunch *a priori* was that the coefficient on PTVOL1 would be negative and statistically significant. As one can see from this row of Table 6 none of the six coefficients is significant and three are positive. Indeed none of the labour force status variables is statistically significant. All six of the PTINVOL1 coefficients are negative which again seems counterintuitive if one thinks that people might move to find full-time jobs when they want them and do not have them. As one might expect five of the six coefficients for UNEMP are positive and the NLF1 variable exhibits a mixture of signs. Being self-employed reduces the probability of moving to the more urban regions (Quebec, Ontario and BC) and increases the probability of moving to the more rural regions (Maritimes, Manitoba, Saskatchewan and Alberta). This is one instance where using the occupational information might prove useful. Longer job tenure at the first interview does reduce the probability of moving between the first and second interviews, and this effect is statistically significant for the Maritimes, Ontario and BC.

Higher levels of parents' education do increase mobility probabilities; all five statistically significant coefficients are positive. Thus it would appear that larger family resources is positively correlated with moving even after attending university. Very few of the field of study coefficients is significant but there is some evidence that those with baccalaureates in fine arts and humanities were more likely than those in other fields to migrate to Quebec, Manitoba, Saskatchewan and BC.

Cohort effects appear to matter. Relative to the 1982 cohort, the 1990 cohort was less likely to move to Ontario perhaps as a consequence of the severe recession in Ontario in the first half of the 1990s and the attraction of BC rose across the three cohorts. The same is true of the Maritimes but the effect is not statistically significant. Successive cohorts were less likely to move to Quebec, Manitoba and Saskatchewan. Effects for Alberta were pretty much the same across all three cohorts.

How does location prior to attending university and at university affect the probability of moving between the first and second interviews. The pre-university coefficients in Table 6 point to a significant "returner" effect. Relative to those who lived outside the Maritimes prior to attending university, those who lived in the Maritimes prior to attending university were more likely to move back to the Maritimes between the first and second interviews. This effect is very strong for Quebec and Alberta and is present for Ontario, Manitoba and Saskatchewan. Only in BC is it true that those who lived in Manitoba or Saskatchewan prior to attending university were more likely to move to BC than those who lived in BC prior to attending university. The next set of coefficients measure the effects of location at university. Going to school in the Maritimes raises the probability of moving to the Maritimes between the first and second interviews. The same is true of Manitoba, Saskatchewan and BC. The opposite is true of Quebec, Ontario and Alberta.

We note that being married reduces migration probabilities, and quite often this effect is statistically significant. The effect of age is generally insignificant except that older individuals are less likely to migrate to Alberta. Finally, we end where we began; there is no evidence that men and women differ in their migration behaviour.

Table 6 Multinomial Logit Results for the Probabilities of Moving between the First and Second Interviews

	Migration to:					
	Maritimes		***Quebec***		***Ontario***	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	-4.276	1.233	-4.853	1.354	-4.646	0.815
AGE	-0.031	0.045	0.013	0.050	0.005	0.029
FEMALE	-0.108	0.177	0.281	0.206	0.208	0.121
EARN1	0.103	0.046	0.080	0.058	-0.018	0.039
Labour Force Status/Self-Employment/Tenure; Full Time is Omitted						
PTVOL1	0.384	0.530	-0.190	0.734	0.104	0.398
PTINVOL1	-0.933	0.596	-0.079	0.479	-0.178	0.299
UNEMP1	0.153	0.296	0.069	0.368	0.315	0.195
NLF1	-0.470	0.745	0.903	0.487	0.400	0.346
SELF1	0.091	0.373	-0.107	0.461	-0.407	0.313
TENURE1	-0.183	0.085	-0.121	0.091	-0.109	0.055
Mother's and Father's Education; Omitted is Primary						
DADSECON	0.076	0.216	0.371	0.267	0.078	0.155
DADCOLL	-0.716	0.447	0.715	0.358	-0.205	0.269
DADUNIV	0.023	0.247	0.574	0.288	0.472	0.161
MOMSECON	0.124	0.230	0.037	0.253	0.202	0.157
MOMCOLL	0.474	0.260	-0.148	0.322	0.351	0.181
MOMUNIV	0.314	0.302	-0.166	0.348	0.230	0.199
Marital Status and Number of Children; Omitted is Single, No Children						
MARPAR1	0.005	0.295	-0.623	0.396	-1.190	0.297
MARNC1	-0.121	0.196	-0.518	0.242	-0.363	0.135
WSDNC1	0.114	1.026	-0.076	1.027	-0.471	0.724
Field of Study; Fine Arts and Humanities Comprise the Omitted Category						
ALLED	0.035	0.335	-0.601	0.338	-0.303	0.233
COMMER	-0.108	0.349	-0.644	0.355	0.022	0.231
ECON	0.072	0.579	-0.781	0.752	0.301	0.360
OTHSSC	-0.267	0.379	-0.960	0.392	-0.034	0.235
AGBIOS	0.538	0.383	-0.764	0.445	-0.130	0.290
OTHHEA	-0.012	0.338	-1.040	0.365	0.138	0.221
ENGCSC	-0.153	0.368	-0.316	0.324	0.420	0.229
MATHPH	0.086	0.477	-0.142	0.418	-0.114	0.358
Cohort Dummies; 1982 is Omitted						
COH86	0.251	0.205	-0.044	0.214	0.126	0.128
COH90	0.330	0.212	-0.399	0.244	-0.346	0.151
Pre-University Province/Region; Omitted is Ontario						
MAR	0.415	0.536	0.656	0.535	-0.097	0.358
QUE	-0.607	0.780	2.338	0.377	-0.074	0.448
PRA	-2.270	0.790	0.321	0.986	-0.703	0.475
AL	-1.627	0.904	-0.750	1.333	-0.978	0.508
BC	0.101	0.725	-0.726	1.370	-0.967	0.520
University Province/Region; Omitted is Ontario						
MAR	1.040	0.552	-0.129	0.493	1.614	0.374
QUE	-0.257	0.818	-1.838	0.378	0.436	0.476
PRA	1.284	0.705	-0.878	0.977	1.681	0.485
AL	0.383	0.866	-1.342	1.329	1.295	0.521
BC	-0.634	0.844	-0.826	1.366	1.584	0.535

Table 6 **Multinomial Logit Results for the Probabilities of Moving between the First and Second Interviews**

	Migration to:					
	Maritimes		***Quebec***		***Ontario***	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**-4.276**	1.233	**-4.853**	1.354	**-4.646**	0.815
AGE	-0.031	0.045	0.013	0.050	0.005	0.029
FEMALE	-0.108	0.177	0.281	0.206	0.208	0.121
EARN1	**0.103**	0.046	0.080	0.058	-0.018	0.039
Labour Force Status/Self-Employment/Tenure; Full Time is Omitted						
PTVOL1	0.384	0.530	-0.190	0.734	0.104	0.398
PTINVOL1	-0.933	0.596	-0.079	0.479	-0.178	0.299
UNEMP1	0.153	0.296	0.069	0.368	0.315	0.195
NLF1	-0.470	0.745	0.903	0.487	0.400	0.346
SELF1	0.091	0.373	**-0.107**	0.461	-0.407	0.313
TENURE1	**-0.183**	0.085	-0.121	0.091	**-0.109**	0.055
Mother's and Father's Education; Omitted is Primary						
DADSECON	0.076	0.216	0.371	0.267	0.078	0.155
DADCOLL	-0.716	0.447	**0.715**	0.358	-0.205	0.269
DADUNIV	0.023	0.247	**0.574**	0.288	**0.472**	0.161
MOMSECON	0.124	0.230	0.037	0.253	0.202	0.157
MOMCOLL	**0.474**	0.260	-0.148	0.322	0.351	0.181
MOMUNIV	0.314	0.302	-0.166	0.348	0.230	0.199
Marital Status and Number of Children; Omitted is Single, No Children						
MARPAR1	0.005	0.295	-0.623	0.396	**-1.190**	0.297
MARNC1	-0.121	0.196	**-0.518**	0.242	**-0.363**	0.135
WSDNC1	0.114	1.026	-0.076	1.027	-0.471	0.724
Field of Study; Fine Arts and Humanities Comprise the Omitted Category						
ALLED	0.035	0.335	-0.601	0.338	-0.303	0.233
COMMER	-0.108	0.349	-0.644	0.355	0.022	0.231
ECON	0.072	0.579	-0.781	0.752	0.301	0.360
OTHSSC	-0.267	0.379	**-0.960**	0.392	-0.034	0.235
AGBIOS	0.538	0.383	-0.764	0.445	-0.130	0.290
OTHHEA	-0.012	0.338	**-1.040**	0.365	0.138	0.221
ENGCSC	-0.153	0.368	-0.316	0.324	0.420	0.229
MATHPH	0.086	0.477	-0.142	0.418	-0.114	0.358
Cohort Dummies; 1982 is Omitted						
COH86	0.251	0.205	-0.044	0.214	0.126	0.128
COH90	0.330	0.212	-0.399	0.244	**-0.346**	0.151
Pre-University Province/Region; Omitted is Ontario						
MAR	0.415	0.536	0.656	0.535	-0.097	0.358
QUE	-0.607	0.780	**2.338**	0.377	-0.074	0.448
PRA	**-2.270**	0.790	0.321	0.986	-0.703	0.475
AL	-1.627	0.904	-0.750	1.333	-0.978	0.508
BC	0.101	0.725	-0.726	1.370	-0.967	0.520
University Province/Region; Omitted is Ontario						
MAR	1.040	0.552	-0.129	0.493	**1.614**	0.374
QUE	-0.257	0.818	**-1.838**	0.378	0.436	0.476
PRA	1.284	0.705	-0.878	0.977	**1.681**	0.485
AL	0.383	0.866	-1.342	1.329	**1.295**	0.521
BC	-0.634	0.844	-0.826	1.366	**1.584**	0.535

Table 6 (continued)

	Migration to:					
	Man-Sask		***Alberta***		***BC***	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	**-4.383**	1.333	**-3.505**	1.076	**-5.391**	1.044
AGE	-0.031	0.048	**-0.089**	0.039	0.024	0.038
FEMALE	-0.004	0.211	-0.043	0.156	0.068	0.163
EARN1	0.088	0.053	0.044	0.046	0.032	0.048
Labour Force Status/Self-Employment/Tenure; Omitted is Full Time						
PTVOL1	-0.204	0.611	0.227	0.440	-0.877	0.726
PTINVOL1	-0.697	0.601	-1.051	0.594	-0.675	0.520
UNEMP1	-0.117	0.409	0.402	0.264	0.096	0.282
NLF1	-0.031	0.641	0.216	0.498	0.003	0.502
SELF1	0.308	0.370	0.158	0.320	-0.499	0.391
TENURE1	-0.153	0.092	-0.023	0.059	**-0.197**	0.077
Mother's and Father's Education; Omitted is Primary						
DADSECON	-0.501	0.258	-0.064	0.192	0.156	0.208
DADCOLL	-0.108	0.382	-0.014	0.317	0.283	0.303
DADUNIV	-0.553	0.280	0.272	0.199	0.041	0.225
MOMSECON	0.155	0.259	**0.474**	0.198	0.064	0.220
MOMCOLL	0.486	0.290	0.402	0.233	**0.654**	0.236
MOMUNIV	0.490	0.328	0.056	0.267	0.421	0.265
Marital Status and Number of Children; Omitted is Single, No Children						
MARPAR1	-0.095	0.340	-0.627	0.321	-0.283	0.294
MARNC1	-0.148	0.224	-0.206	0.166	**-0.388**	0.188
WSDNC1	0.596	0.743	-0.653	1.020	0.011	0.731
Field of Study; Fine Arts and Humanities Comprise the Omitted Category						
ALLED	-0.292	0.325	-0.032	0.317	-0.564	0.302
COMMER	**-1.659**	0.524	0.058	0.330	-0.098	0.300
ECON	-0.487	0.643	-0.423	0.573	-0.464	0.554
OTHSSC	-0.748	0.400	0.519	0.305	-0.009	0.286
AGBIOS	-0.337	0.416	0.388	0.356	-0.649	0.402
OTHHEA	-0.623	0.358	0.001	0.322	-0.053	0.282
ENGCSC	-0.751	0.401	0.535	0.320	-0.340	0.313
MATHPH	0.134	0.471	0.213	0.468	-0.505	0.472
Cohort Dummies; 1982 is Omitted						
COH86	-0.288	0.225	0.040	0.168	**0.594**	0.211
COH90	-0.192	0.240	-0.047	0.188	**0.756**	0.219
Pre-University/Region; Omitted is Ontario						
MAR	-1.084	0.679	-0.723	0.596	-0.257	0.669
QUE	-1.044	0.929	-0.677	0.934	-1.121	0.834
PRA	0.815	0.739	0.396	0.557	0.295	0.577
AL	-0.393	0.790	**1.540**	0.557	-0.696	0.558
BC	-0.975	0.978	0.301	0.635	-0.278	0.587
University Province/Region; Omitted is Ontario						
MAR	**1.951**	0.707	**1.395**	0.592	-0.098	0.668
QUE	1.599	0.970	-0.863	1.058	-0.029	0.839
PRA	1.556	0.794	**2.001**	0.573	0.633	0.591
AL	**1.889**	0.835	-0.238	0.599	**1.488**	0.560
BC	1.277	1.012	1.256	0.654	0.758	0.609

Note: Shaded cells are significant at the 5% level.

Table 6 (continued)

	Migration to:					
	Man-Sask		***Alberta***		***BC***	
Variable	COEFF	STD ERR	COEFF	STD ERR	COEFF	STD ERR
CONST	-4.383	1.333	-3.505	1.076	-5.391	1.044
AGE	-0.031	0.048	-0.089	0.039	0.024	0.038
FEMALE	-0.004	0.211	-0.043	0.156	0.068	0.163
EARN1	0.088	0.053	0.044	0.046	0.032	0.048
Labour Force Status/Self-Employment/Tenure; Omitted is Full Time						
PTVOL1	-0.204	0.611	0.227	0.440	-0.877	0.726
PTINVOL1	-0.697	0.601	-1.051	0.594	-0.675	0.520
UNEMP1	-0.117	0.409	0.402	0.264	0.096	0.282
NLF1	-0.031	0.641	0.216	0.498	0.003	0.502
SELF1	0.308	0.370	0.158	0.320	-0.499	0.391
TENURE1	-0.153	0.092	-0.023	0.059	-0.197	0.077
Mother's and Father's Education; Omitted is Primary						
DADSECON	-0.501	0.258	-0.064	0.192	0.156	0.208
DADCOLL	-0.108	0.382	-0.014	0.317	0.283	0.303
DADUNIV	-0.553	0.280	0.272	0.199	0.041	0.225
MOMSECON	0.155	0.259	0.474	0.198	0.064	0.220
MOMCOLL	0.486	0.290	0.402	0.233	0.654	0.236
MOMUNIV	0.490	0.328	0.056	0.267	0.421	0.265
Marital Status and Number of Children; Omitted is Single, No Children						
MARPAR1	-0.095	0.340	-0.627	0.321	-0.283	0.294
MARNC1	-0.148	0.224	-0.206	0.166	-0.388	0.186
WSDNC1	0.596	0.743	-0.653	1.020	0.011	0.731
Field of Study; Fine Arts and Humanities Comprise the Omitted Category						
ALLED	-0.292	0.325	-0.032	0.317	-0.564	0.302
COMMER	-1.659	0.524	0.058	0.330	-0.098	0.300
ECON	-0.487	0.643	-0.423	0.573	-0.464	0.554
OTHSSC	-0.748	0.400	0.519	0.305	-0.009	0.286
AGBIOS	-0.337	0.416	0.388	0.356	-0.649	0.402
OTHHEA	-0.623	0.358	0.001	0.322	-0.053	0.282
ENGCSC	-0.751	0.401	0.535	0.320	-0.340	0.313
MATHPH	0.134	0.471	0.213	0.468	-0.505	0.472
Cohort Dummies; 1982 is Omitted						
COH86	-0.288	0.225	0.040	0.168	0.594	0.211
COH90	-0.192	0.240	-0.047	0.188	0.756	0.219
Pre-University/Region; Omitted is Ontario						
MAR	-1.084	0.679	-0.723	0.596	-0.257	0.669
QUE	-1.044	0.929	-0.677	0.934	-1.121	0.834
PRA	0.815	0.739	0.396	0.557	0.295	0.577
AL	-0.393	0.790	1.540	0.557	-0.696	0.558
BC	-0.975	0.978	0.301	0.635	-0.278	0.587
University Province/Region; Omitted is Ontario						
MAR	1.951	0.707	1.395	0.592	-0.098	0.668
QUE	1.599	0.970	-0.863	1.058	-0.029	0.839
PRA	1.556	0.794	2.001	0.573	0.633	0.591
AL	1.889	0.835	-0.238	0.599	1.488	0.560
BC	1.277	1.012	1.256	0.654	0.758	0.609

Note: Shaded cells are significant at the 5% level.

7. Conclusions

It is time to pull the strands of the story together. In these NGS data, and perhaps in other data sets as well, the migration behaviour of men and women look to be very similar. We know that while labour market outcomes for young men and young women are converging, outcomes are still quite different in these and other data sets. Thus, whatever the relationships are between labour market outcomes and mobility, there is not a perfect correlation. Broadly speaking, one can interpret the results of the previous sections as implying that migration behaviour has a greater influence on labour market outcomes than the other way round. In the nebulous world of relationships between jointly determined variables it may not be too misleading to think of mobility as exogenous relative to labour market outcomes. Accordingly, we view the main results of this paper as those of sections 4 and 5 in which we attempted to identify the effects of mobility on labour market outcomes. Within these sections we have argued that the joint problems of endogeneity and individual heterogeneity are best handled by studying labour market outcomes at the second interview, conditional on labour market outcomes at the first interview, age, marital status, parents' education, field of study and cohort.

For labour force status at the second interview, we find that moving significantly reduces the probability of working part-time involuntarily or of being unemployed. The percentage reductions in probabilities are particularly large for the Maritimes, Quebec, Manitoba and Saskatchewan. The percentage changes for the part-time-voluntary group and for those not in the labour force vary in sign and are much smaller in magnitude.

While there are some exceptions, women and men who moved to Ontario, Alberta and BC had higher second interview earnings than stayers. Women who left Ontario experienced lower earnings unless they went to the Maritimes. Men who left Alberta had lower earnings unless they went to Quebec. Women who left Alberta had lower earnings unless they went to BC. Men who left BC enjoyed higher earnings unless they migrated to the Maritimes. Women who left BC had higher earnings unless they went to the Maritimes or Alberta.

References

Burbidge, John and Ross Finnie [2000], *The Geographical Mobility of Baccalaureate Graduates: Evidence from three cohorts of the National Graduates Surveys, 1982, 1986 and 1990.* Research paper R-00-1-3E, Applied Research Branch, Strategic Policy, Human Resources Development Canada.

Finnie, Ross [1998a], *Inter-Provincial Mobility in Canada: A Longitudinal Analysis.* Working paper W-98-5E.a, Applied Research Branch, Strategic Policy, Human Resources Development Canada and School of Policy Studies at Queen's University mimeo.

_____ [1998b], "The Patterns of Inter-Provincial Migration in Canada 1982-95: Evidence from Longitudinal Tax-Based Data," School of Policy Studies at Queen's University mimeo.

_____ [1998c], "Inter-Provincial Migration: A Longitudinal Analysis of Movers and Stayers and the Associated Income Dynamics," *Canadian Journal of Regional Science*, forthcoming.

_____ [1998d], *Who Moves? – A Panel Logit Model Analysis of Inter-Provincial Migration In Canada.* Working Paper W-98-5E.b, Applied Research Branch, Strategic Policy, Human Resources Development Canada and School of Policy Studies at Queen's University mimeo.

_____ [1998e], *The Effects of Inter-Provincial Mobility on Individuals' Earnings: Panel Model Estimates for Canada.* Working Paper W-98-5E.c, Applied Research Branch, Strategic Policy, Human Resources Development Canada and School of Policy Studies at Queen's University mimeo.